

THE
MEDICAL EXAMINER,
AND
RECORD OF MEDICAL SCIENCE.

NEW SERIES.—NO. LXII.—FEBRUARY, 1850.

ORIGINAL COMMUNICATIONS.

A case of Successful Operation for the Exsection of two Carious Ribs, and the lower portion of the Sternum. By the late GEORGE McCLELLAN, M. D., of Philadelphia.

To F. G. Smith, M. D.

My Dear Dr.—The following case was lately found among my father's papers, in the form of a letter to a medical friend. As it is an exceedingly important and interesting one, and as I do not think it has ever been published, I enclose it to you for insertion in the "Examiner." The operation was performed in the year 1829, upon Mr. John Uhler, of Lebanon, Pa., for many years a member of the State Legislature, and was merely referred to by me in a note to my father's work on Surgery, page 354, as I had not then found these particulars.

Within a few days I have seen Dr. J. W. Gloninger, of Lebanon, Mr. Uhler's family physician, who attended him after the operation, from whom I learned that the patient recovered in about six weeks, without an unfavorable symptom, and lived until the fall of 1849, when he died of apoplexy, at the age of 72 years. The

bones, &c., removed by the operation, are now in my father's surgical collection.

Truly yours,

J. H. B. McCLELLAN, M. D.

Philadelphia, January 19, 1850.

PHILADELPHIA, January 27th, 1831.

To — —, M. D.

My Dear Sir,—Herewith I enclose the autograph letter of a patient, in the history of whose case you appear to have taken a deep interest. The bony specimens, which were presented by his family after the operation, have just come to hand, and I will send them to you before you leave the city.

As near as I can judge, from a recollection of his appearance at the time of the operation, I should suppose that the patient was about fifty years old. He was a very large person and corpulent; and his chest was at least as full and broad as I recollect ever to have observed in the case of any other individual. This will account for the unusual length of the cartilages of the ribs which were excised, and for the extent of the incisions which I was obliged to make in the superincumbent soft parts.

In addition to the symptoms enumerated in the enclosed letter, I must not omit to state, that I was particularly struck by the appearance of great oppression and difficulty of respiration under which the patient had been laboring for a considerable period of time before I visited him. On passing a probe through a fistulous opening, situated a short distance from the right edge of the lower portion of the sternum, I was also surprised to find the two adjacent costal cartilages presenting hard and rough bony surfaces, along both of which I could convey the probe its whole length towards the right side. This circumstance immediately convinced me that the disease had originated from an ossification of those cartilages, and a consequent inflammation in or around them, which had finally produced a detachment of the perichondria, and a caries, if not a necrosis, of both bony substances.

I commenced the operation by carrying a deep incision from the edge of the sternum outwards, to the distance of seven or eight inches, along the intercostal space between the *fifth* and *sixth* ribs. The edges of this incision were then dissected up until the

surfaces of both those ribs were fully exposed. They were evidently ossified cartilages, presenting the appearance of worm-eaten caries throughout their whole length. The perichondrium was completely detached from the external surface of both, and thickened by induration of the surrounding cellular substance. I encountered but little difficulty, therefore, in detaching this envelope and pushing it backwards from the upper and lower edges of each rib by the use of the handle, and occasionally the blade of a common scalpel. The attenuated intercostal muscles and tendinous fibres were of course detached along with those membranes. The bones were then left sufficiently bare to allow of the application of a Hay's saw, which I repeated twice on each rib. With a common elevator I then pried up the bones from their outer towards their sternal attachments, in accomplishing which, only two or three applications of the knife were required to cut away adhesions to the indurated mass of membranes and cellular tissue within. As the projecting extremities of the ribs did not appear perfectly sound, I extended the incision a little further outwards, and cut away about one and a half inches more from their substance. The lower portion of the sternum presenting a similar appearance of disease, I also enlarged the incision inwards, and sawed away a considerable portion of that bone. On examining the exposed surface, there appeared a convoluted bony plate, surrounded by some indurated cellular tissue and medullary looking matter, pressing upon the pleura costalis, and intruding upon the cavity of the chest. I mistook this at first for the extremity of the seventh rib, which I supposed had been turned inwards and upwards behind the corresponding cartilages of the fifth and sixth ribs. On a closer inspection, however, I became convinced that it proceeded from ossification of the sixth rib, which had attempted to set up a sequestrating process around the cartilage.

I succeeded very easily in prying up the whole of this mass with an elevator, which detached it clearly from the pleura, with the same kind of sound that is emitted from a birch log when it is stripped of its bark. The intercostal fibres, both muscular and tendinous, were chiefly removed along with the bony plate, and the pleura was then left thin as natural, rising and falling alternately, with the efforts at inspiration and expiration.

As hemorrhage from the torn branches of the intercostal and

mammary arteries ceased almost instantaneously, I immediately closed up the incision in the integuments, and retained them in apposition by interrupted sutures and adhesive plasters. A broad compress and bandage completed the dressing, and I left the patient directly afterwards in the care of my friend, Dr. J. W. Gloninger.

In haste, I am truly your friend,

GEO. McCLELLAN.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of December, 1849.

DR. JACKSON, (late of Northumberland,) PRESIDENT, in the Chair.

Discussion on the Powers of Quinine in Remittent Fevers.

Dr. Parrish remarked that, in the absence of the lecturer for the evening, he would ask the attention of the Society to a subject of much practical interest, in the hope of eliciting inquiry, and of promoting discussion.

It is well known that, within a few years past, the practice of administering quinine in the early stage of malarial fevers of the remittent type, has become quite prevalent in those sections of the United States where these fevers are most prevalent. The idea is now extensively entertained, that remittent and intermittent fevers are essentially the same disease, and that the absence of distinct intermissions in the former, should not prevent the administration of the remedy which is found so effectual in controlling the latter. Hence, the physicians who hold to this opinion give quinine in large doses, and with a view to its antiperiodic qualities, in the remissions of a fever, for the purpose of preventing the exacerbations, which are known to occur at particular intervals. They do not wait until all febrile action has passed away, or until a crisis occurs in the natural course of the fever, on the fifth, seventh, or ninth day, or even later, but they commence at the outset with this potent remedy, just as they would do if no fever were present, as in the intermission of an intermittent. In both cases they would, perhaps, generally precede the quinine by a brisk mercurial cathartic, and then attack it with quinine, in

the interval of the paroxysms, with a view to cutting short the disease.

The results of this practice, as reported to us by many highly respectable physicians of the west and south, whose experience has been ample, is, that remittent fevers which, under the plan of treatment formerly in vogue, were accustomed to run a protracted course, and to assume a serious aspect, are brought to a rapid termination, or converted, after two or three paroxysms, into the intermittent type, and easily cured. They say, that so far from the quinine increasing the heat, thirst, and sensorial disturbance incident to fever, that it allays these, calms the nervous system, and acts as a diaphoretic. Now, it is a point of great practical interest, to know how far these observations of our brethren in other sections correspond with experience here; and my object in introducing the subject at this time is, to ascertain this.

For myself I can state that, in common with most of those who hear me, I was educated in the doctrine, that in remittents we must be very cautious of bark or quinine, while the least febrile excitement is present.

The idea entertained here, by the most eminent medical teachers, when I was a student, was, that in remittent the febrile excitement must be reduced by the lancet and brisk purgation during the early stages, and that tonics were only to be given after the decline of the fever. Even my excellent father, who, as is well known by many here, was more favorable to the use of tonics and supporting treatment in fever than most of his contemporaries, taught in his lectures that bark and quinine were not to be given until the cleaning of the tongue, or the occurrence of critical sweats indicated the approach of convalescence; except in cases where malignant symptoms were developed, or where unusual evidences of prostration existed,—and then the article was given more for its general tonic properties, than with any prospect of cutting short the fever.

Within the past few years, however, from the large amount of testimony to the value of quinine in the early stages of remittent which has reached us through the medical journals, I have been induced to pursue this course, and have reason to be well satisfied with it. I have found that quinine given in the early stage of a remittent, after a free evacuation of the bowels by a mercurial

cathartic, and when a distinct morning remission was observable, has had the effect of moderating the evening exacerbation, and, by continuing it for a few days, of bringing the fever to a rapid and favorable crisis. I have seldom given over 15 or 20 grains in the remission, and in mild cases have found even less than this to answer the purpose. Since adopting this plan I have not seen any cases of protracted remittent, running on for three and four weeks, and attended with tympanitis, subsultus tendinum, low delirium, hæmorrhage from the bowels, &c. Whether this fortunate exemption is attributable to the mode of treatment adopted, or to a diminished liability in our fevers of late years to assume this form, I cannot positively say; though I am inclined to think that the old plan of delaying the use of tonics may have contributed to the production of these prolonged cases.

If the practice recently introduced by the practitioners of the south and west, in the treatment of malarial fevers, be confirmed by experience, and established as sound—it must be admitted that a great step has been taken in practical medicine—diseases, once the dread of the inhabitants of large sections of our country, will be divested of much of their virulence, and be brought under the control of remedial measures, while our science will have achieved a grand triumph.

Dr. W. Jewell said he was an advocate for the early employment of quinine in fevers. In intermittent forms he preferred decided doses, and in remittent types he did not invariably confine his practice to grain doses. For several years he had been accustomed to administer quinine in the ordinary forms of autumnal fevers, without waiting for a complete intermission of the paroxysm. He had not witnessed any bad results therefrom. He would not venture, however, to advocate its use where there were signs of local congestions, or during a high state of inflammatory excitement; in such instances, the introduction of quinine, from its therapeutic properties, is contraindicated. An abatement of the more violent symptoms of febrile excitement would be an indication, with him, for the admission of quinine into the system. By this course he had often witnessed the cutting short of fever. He believed it to be a safe mode of practice. Of one thing he was certain, that he cured his cases of fever in a much shorter

period now, than he did years ago, when he depended upon the free and frequent use of the lancet, and a complete intermission of the paroxysm, before he ventured to prescribe quinine. He seldom encountered those protracted and obstinate cases of slow convalescence, with a tedious train of nervous symptoms, and an almost insurmountable prostration of the nervous energy, often terminating in visceral obstructions, with which he had been familiar in the early years of his experience as a practitioner. Then it was that he bled day after day, during the paroxysm, until he had entirely subdued the fever; but of late years his mind and practice had undergone a change, so that his lancet lay rusting in its case, for want of frequent use in fevers.

He believed that we were too timid in the treatment of fevers by quinine; and he was glad to find that the employment of the article, without waiting for a perfect and distinct remission, was gaining friends. If the practice was not a favorite one now, he thought it would become so hereafter. As for his experience, it was decidedly in its favor; nor had he witnessed those distressing effects upon the stomach and pulse, which had been attributed to its use, during the prevalence of fever. The approach of *tinnitus aurium* and partial deafness he looked upon as an indication of its influence upon the nervous system, but by no means a dangerous result. But he would not recommend its indiscriminate use in fevers; like other therapeutic agents, it required the exercise of judgment and discretion.

In the administration of large doses of quinine in intermittent fevers he had had some experience. It was not a new practice to him. In 1825, the late Dr. J. Snowden, of this city, was accustomed to treat his intermittents with decided doses of quinine. His usual habit was, after free purging, to administer during the intermission 10 grains of the article at one time, and was very successful in the treatment of his cases. The same practice had been adopted by other practitioners. He (Dr. J.) had followed in the same path, and instead of prescribing quinine in one grain doses each hour, during the intervals of the paroxysm, he directed five grains every two hours, until 10, 15 or 20 grains had been taken, according to the peculiar temperament or condition of his patient. This practice, with him, had been very successful.

He had often continued the use of the quinine in intermittents, during the prevalence of the fever, without inconvenience to the patient, and he considered the practice a much safer one than many had been disposed to believe it. He would be happy to hear the experience of others on this subject.

Dr. Bell, in reference to the alleged novelty of giving quinine in the paroxysm of remittent fever, remarked, that it did not require a person to have attained a very advanced age to be able to witness a circle of medical doctrines, in which the old were revived as novelties. The practice described by Dr. Parrish is not, by any means, new or recent. Drs. Clark and Lind,—the first in his work on the *Diseases which prevail on Long Voyages*, &c.; and the second on the *Diseases of Warm Climates*, speak of the use of the bark during the exacerbation of the fever—not as a matter of speculation, but of good practice. These authors wrote more than three-quarters of a century ago. Others might be cited to the same purport. In Italy the practice has been long a familiar one.

Dr. Bell, when remittent and intermittent fever, with their congestive complications, prevailed around Philadelphia, twenty-seven and twenty-eight years ago, had, from his connection with the Philadelphia Dispensary, of which he was one of the physicians for more than twelve years, an opportunity of seeing much of these fevers. He gave, in some cases, various preparations of cinchona during the paroxysmal stage of remittent fevers, but without satisfactory results. When the blue mass, or calomel, was directed in alternation with the bark, better effects ensued.

Dr. B. said that, to hear some persons, one would suppose learning and experience to be incompatible with each other, and that a knowledge of the opinions of the best writers on a disease was a disqualification for treating it successfully. That some reading was of service, however, he had the means of proving to his professional brethren in his published lectures on the Practice of Physic, in which, when speaking of the treatment of congestive fever, he took some pains, and he believes not without success, to show his readers that this disease, which to most of them seemed to be new, had been in fact fully described, and its correct treatment laid down in various works, some of them, perhaps, on their own

shelves. A reference to these would have taught them that, under the name of pernicious or malignant intermittents and remittents, were described their congestive fevers. Torti, among others, recommended and gave the bark in sub-continued fever of a malignant character.

As a farther illustration of the necessity of a physician knowing the history of the treatment of a disease which comes before him, Dr. B. adverted to the strange ignorance manifested by a physician of a Parisian hospital a few years ago, in his prescribing large doses of quinine for acute rheumatism. This gentleman began his experiments as if he had been the first to adopt the practice; overlooking or ignorant of the trials of Haygarth and other English physicians so many years before, on this point. A little literature might have saved the lives of some of the patients of the Parisian doctor, and the credit of the profession.

Our wonder at the administration and favorable reports of the good effects of quinine in the hot stage of periodical fevers will be abated if we look on this medicine in another light than as a tonic. It is a difficult task to classify medicines, with reference to either their physiological or therapeutical effects; and hence, while we can criticise existing arrangements, we find it difficult to offer better ones. If we must designate the operation of quinine in disease by a single term, that of *sedative* seems the most appropriate. Its power of allaying febrile irritation, in which disturbance of the nervous system is the chief element, cannot be doubted. That with this effect it should, also, when given in disproportionately large doses, exert narcotic and even toxical properties, is only what we must look for from nearly all articles of the vegetable kingdom which we are accustomed to use as sedatives. Be this as it may, Dr. B. expressed his belief that the admission of the sedative operation of quinine would go farther to harmonize the pathology of the fevers and other diseases, and its use in them, than a belief of its stimulating or tonic effects. As a mere stimulant it utterly fails us. As a tonic proper, in diseases in which there is simple asthenia and anemia, without nervous complication, it is equally unsuccessful. Indirectly, it seems to display a tonic operation by allaying and removing the nervous disorder and excitement, which kept the functions in a disturbed state, and produced indirect debility in consequence.

Our confidence in the administration of large doses of quinine in periodical fevers, and of its use in the paroxysmal period, will be increased by a knowledge of the fact, that this practice is now one of common recourse in southern Europe, in Algeria, and in the United States, by physicians who would seem to have been led to it without any prior concert or formal interchange of opinions.

Arsenic, the febrifuge effects of which are readily suggested by the mention of quinine, is another example of the difficulty of classifications of the *Materia Medica*. It is commonly spoken of as a tonic, and as such it is prescribed in periodical fevers; but its operation in these diseases is not explicable by regarding it in this light. Like quinine, its chief therapeutical action is on the nervous system; and like quinine, also, its action is more evidently tranquillizing than exciting; and hence its use is admissible in states of excitement of the nervous and even bloodvessel system, in which mere stimulants, and common tonics, too, containing the bitter and astringent principles, would be injurious. This remark, of course, applies to the administration of arsenic in small doses, short of any toxical effects, which last would include not only lesions of tissue and poisoning of the blood, but the milder degree of emaciation and anasarcaous effusion. From the time of Fowler to the present day, the safety and good effects of arsenic in intermittent fever are familiar to English and American physicians; but it is only of late years that the same favorable opinions of this medicine are beginning to be entertained in France. For a time, under the dominion of the Broussain theory, arsenic was dreaded as a poison, the use of which was denounced under all circumstances. Dr. B. has himself heard Broussais in his lectures speak of it in these terms. Now, however, we find that, through the exertions of M. Boudin, and other medical officers of the French army, arsenic has been used to a great extent among the troops, as respects the number of the patients.

It would seem, from official returns, that not only is the safety, but also the efficacy, of the practice proved. In this last respect it is alleged to be superior even to quinine. Thus, while the mean duration of the cases of intermittent fever treated by quinine is stated to have been thirty days, that of those in which arsenic was administered was twenty-two days; and that while the relapses

after the quinine were somewhat more than twelve per cent., those after arsenic were but a little more than three per cent.*

The expense of procuring quinine, and the great extent to which it is adulterated, gave increased importance to the question of a good and cheap substitute for this invaluable medicine.

The President of the Society (Dr. S. Jackson, formerly of Northumberland) was asked his opinion, as he had practised twenty-five years in a region of fevers; he gave it, and has since written it with amplification as follows:—

If any one reads this little paper, let him bear in mind that the writer intended to note so much only as would indicate his general principles of treatment; and that he confines his observations to the fever as he has known it in Northumberland or Philadelphia, and to such cases of this as consist of open and free reaction.

The remittent koinomiasmatic fever is a purely inflammatory disease in all times and places, having no tendency whatever to the typhus or typhoid, nor any possibility of being changed into either of these, in any of its stages. If there is no actual inflammation present, there is yet always a tendency to form it, provided the excitement be high or unequally directed. In all cases therefore of open free reaction, the first indication is to abstract all stimulant and tonic matter, whether medicinal or dietetic, till the fever is solved or changed into a perfect intermittent: those cases excepted which are protracted into a state of great debility, or such as are sometimes supervened by hemorrhage, congestion, or some other dangerous debilitation; and even here bark and animal food are inadmissible.

Bleeding, general or local or both, is nearly always necessary, or at least useful, particularly in children, in whom there is a determination to the head that will soon end in convulsions or inflammation and effusion. The state of the head in young persons will often indicate a repetition of this remedy; but of this we shall say more in our progress.

Purges ought to be mild, and given in divided doses. If you

*Dr. Bell, at the meeting of the Society, gave the general results of the use of arsenic in intermittent fever as above. He has since added the numeral returns of the comparative merits of this medicine and quinine to the manuscript report of his remarks.

are called in the morning, and this remedy is necessary, give oil or Epsom salts, the latter with magnesia, either of them to be assisted by enemata, so as to relieve the bowels before the exacerbation. This may be expected from one to four o'clock, and you must have it met by small doses of tartar emet. one sixteenth to one twelfth of a grain, largely diluted, every half hour. It is now very desirable that the physician should be there with his lancet; but if this be impossible, the patient must go on with his tart. emet. and hope for a bleeding on the following day. An intelligent nurse might determine whether cups might not, in the physician's absence, be applied to the nucha. Cases sometimes occur, however, in which blood may be drawn from the arm in the morning; and others are sometimes met with that absolutely require either bleeding or cups, so great is the febrile cephalalgia.

Cold water must be poured on the head during the exacerbation in great abundance, if there is much heat or pain therein. Let the patient hold his head over a wash-tub, and let cold water be poured thereon slowly and from a height of three or four feet, but in a very small stream long continued. If the body be generally hot, it must be sprinkled or sponged with cold water, or with warm water, to either of which a little vinegar may be added. The pouring of cold water on the head, like bleeding, is particularly important in children, on account of their cephalic predisposition. Above all things, be careful that the feet are warm.

Now, it is ten to one if the purging do not go on during the afternoon; and as the principal irritation thereof is passed during the morning, the continuance of it during the afternoon, as a mild diarrhœa, will help to weaken the fever. But should it not cease as the remission approaches, you must omit the tart. emetic; and if the patient be debilitated, and headach do not prevent, you may give some op. with ipec. and determine their action to the skin by sudorific tea. The purging ought to be stopped when there is a reasonable hope of an approaching perspiration. Op. is often a blessed medicine in this fever; but it must be generally given so as to sweat off its own intrinsic bad properties, or rather its inappropriate effects. But alas for the fever patient whose opium acts as an irritant.

Now it is needful to prepare for a loose state of the bowels the coming morning. Give then, to an adult, from 5 to 15 grs. cal.

at late bed time, preliminary to a dose of oil as early in the morning as possible, thus being careful that the irritation of purging be administered during the remission. If the bile be healthy and sufficient, or green and not offensive, you may give a small dose of oil at night instead of the calomel; but the least suspicion of hepatic derangement must be met by the mercury, and calomel is infinitely better than the blue mass.

Drinks should be milk warm, because they promote the kindly operation of the purgatives and tart. emetic; and if the ungovernable and silly patient will have cold water, let it be given in very small doses. Large cold drinks often bring on colic, and their transient sedation is always followed by reaction demanding another draught. Milk warm drinks are known to quench thirst better than cold, whether in sickness or health. But here the reader reclaims—"a cold drink is often followed by a free perspiration, the effervescing cold draught determines directly to the skin, and often most wonderfully composes a sick stomach: see what Dr. Wood says in his *Practice of Medicine*." 'Tis true that a large cold drink will sometimes be followed by a temporary sweat, but not often; and if it be indulged in after the perspiration has begun, it is positively hurtful, particularly in bodies greatly debilitated. The Riverian draught is a useful medicine, if given in a state of brisk effervescence, and to patients who are not disposed to flatulence; but query—who is to give it? From three to ten are sick in the same house and there is one worn-out nurse, and most likely an ignorant and clumsy one, who has hardly recovered from her own sickness, and who is so oppressed with duties, that the "very grasshopper is to her a burden"—I could wish Dr. Wood to see this woman go round among the patients, salt of wormwood in one cup and lemon-juice in another—I think he would find her an unfortunate and clumsy chemist. As to the *neutral mixture*, which is the same thing in a vapid state, you might as well give the washings of your teacups and saucers. No—tart. emet. with warm drink is the divine remedy in this fever. You cannot give it judiciously without doing good—you cannot withhold it without doing ill. It is like the Philosophy intended by Horace which he thought would profit all sorts of people;

Æquè pauperibus prodest locupletibus æquè,
Æquè neglectum pueris senibusque nocebit.

Now by this mild treatment, assisted by many coadjuvants not necessary to name, as I am writing for the learned only and not a full treatise for them, nature will bring many deadly cases of fever to a safe and early crisis, or change them into a salutary intermittent. The most important part of the physician's office, is to watch the state of the head, for this is the seat of danger. Bleeding, with leeching the head or cups to the nucha in the very beginning of the exacerbation, must be repeated in many cases more than once, and the pulse must be kept under the sedative influence of tart. emet. Of this the dose may be gradually increased to one fourth of a grain; but be careful not to maintain a continual nausea, for this will bring both the medicine and physician into disgrace. Nor is this nausea necessary to the febrifuge operation of the tartar as may be learned from Lind, Chapman, Fordyce and others.

When at last you seem to have done all that can be done by bleeding, purging, tart. emetic, and yet the fever continues without any evidence of a coming solution, the patient becoming debilitated without a proportional subduction of fever, there is no doubt some local inflammation, most likely in the gastro-intestinal membrane, possibly in the meninges. But wherever it is, small doses of calomel must be given—not to salivate, for this would be a horrible thing, but merely to bring the system under the slightest influence possible. I have already said that calomel is to be preferred to the slow, feeble, uncertain, and often adulterated blue mass. Now as soon as the green bile begins to flow, you may hope for an amelioration of all the symptoms. But while the calomel is doing its part in the above state of things, the remedy which stands pre-eminent is the cold shower bath. If a common apparatus be not at hand, let the patient sit down in a common wash-tub and let a bucket of cold water be thrown over his head and shoulders; then let him be dried and put between blankets, taking some sudorific drinks as camphor tea or vinegar whey. In some cases this process may be preceded by a dose of op. and ipec. This bathing may be repeated every day, in the beginning of the exacerbation if the strength suffices—in the height of it, should the patient be weak; and be assured that it has happily terminated many cases of fever that threatened to run into the lowest state. Now this method of bathing may be used earlier in the fever with

great advantage, but it is after evacuations have been pursued for some days that it proves pre-eminently salutary.

Protracted Cases.

When the physician is called late or some untoward circumstances occur when he is called early, the case may be protracted into a state of great danger. Then supervene the symptoms unfortunately called typhoid. The debility is great, the heat little, the tongue dry and red, the teeth uncovered—*dentes relecti*,* the feet cold, the head sweating. These symptoms, I say, have been *unfortunately* called typhoid. 'Tis true they afford the likeness of typhus, but the disease is still an inflammatory remittent and it will not bear the identical treatment of typhous fevers. In the above state of the system, bark, quinine, bitters, snakeroot, are advocated by many: I venture to discard them all, but particularly the bark and quinine—the best of remedies when properly used, the very worst when abused. Nor would I give one particle of animal food, not even chicken water, as long as the fever is continued.

Farinaceous diet and vegetable soup ought to be administered in small, frequent doses; and if stimuli are needed, wine whey, wine and brandy largely diluted, sweet sp. of nitre, carb. ammon. in julap. But when the tongue is dry and red, the sp. of turpentine is the best of all remedies and should be given in doses of 20 drops to 40 every two hours in mucilage or simply floating on cold water. Blisters to the *suræ* and *nucha* are of great service in this state and they ought to be drawn between the *scapulæ*, if there is any tendency to the lungs. Here moreover they act charmingly on the brain and thus do a double duty.

I need not remind the experienced practitioner how much good he may do by the use of opium, but if I had the leisure and it were necessary, I would “cudgel his brains” with respect to the turning of its operation on the skin. Combined with *ipec.* and given at bed time with warm camphor tea, it will procure sleep and some perspiration in the morning. A non-critical and partial sweat is not injurious in this as in typhous fevers; it affords, like issues in other diseases, an outlet to inflammatory action.

* This symptom I do not recollect seeing noted except by Persius. Sat. III—101.

This process continued nightly, you will find at last that the morning mador is indicating that nature, with your skilful aid, is about to solve the whole disease and prepare the patient for quinine. You will find him gaining a little every day, the pulse becoming slower, the countenance brighter, the tongue moist, the exacerbation daily less severe; till finally at your nocturnal visit, say midnight, you find a softness over the whole body with a fuller and slower pulse—this is the first time to think of quinine. This patient who has been *in dubio* for several days and has kept you continually uneasy, you visit the next morning at the dawn and find that he has happily turned the goal. Now give him a dose of op. or paregoric; and then two grs. of quinine every hour till he has taken from 12 to 16 grs. and the whole trouble is over—you have saved the life of a fellow creature, or rather the Science of Medicine has done it for you.

Tis vain for Dr. Forbes or Dr. Anybody to say that nature performed the cure. Nature sickened the man, nature brought him to the very brink of the grave; and there she would have left him, had she not been persuaded, importuned, or compelled, by your skill in medical science. Nature cure such cases! As well might you say that she cures a crevasse of the great Mississippi because she first made the breach and then afforded the mud wherewith to stop it. Nature acts by an organic necessity and requires to be aided by the means which a world of physicians have happily discovered. Hippocrates said the physician was the servant of nature; could he now see what physicians do, he would say that she is their servant.

Nature cures no mortal disease; that physicians cure many, we do certainly know; and we ought never to do this without feeling thankful for the means, as they certainly came down from Heaven. The cures of mortal diseases have become so common that they are not estimated, and the blessings we confer are not appreciated even by ourselves. Pious men give thanks at table that they have something to eat and say grace, the Friends hold a silent pause; in both which there is a twofold gain, "they kill two birds with one stone," they return thanks and acquire a wonderful appetite by delay. Now I should like to see this practice fairly carried out and a grace said or a pause made over every dose of bark. How different from this is their practice!—the ungrateful men make

angry faces and complain that it is bitter and sticks in their teeth.

The patient has now passed the crisis and he is fortified for the present by the 14 grs. quinine against any return of the fever and against an impending intermittent, which he was poorly able to bear. He is not however free from an almost imperceptible fever arising from a little inflammation somewhere; but this will gradually wear away without bringing the system into sympathy and hence the old favorite, chicken broth, may be given and a little quinine or bark *must* be given every day in divided doses.

As to the use of quinine or bark during the continuance of fever, I must say of them as did Baglivi—*remedium damnabile et perniciosum*. Bark was given us for a specific purpose—the cure of periodicity and not for the cure of fever. Epicurus taught as we learn from Lucretius *L. IV.—821 et seq.* that our bodily organs as eyes and ears were not made for their present uses; but that when made, they found something to do and brought themselves into use. Were this philosopher to metempsychose into the body of some modern physician, he would probably teach, that having found bark beneficial in ague, he would therefore use it. This I believe is not orthodoxy in the present age. We must believe that Heaven gave the bark for the cure of periodicity as certainly as we believe that the eye was made to see with or the ear to hear with. It was not given to cure inflammation, obstruction, dropsy, or fever—therefore it does harm in this fever till nature assisted by the physician or the physician assisted by nature, removes these, or digests them so far that their floating morbidity seeks the pores, the kidneys, or the bowels.

That stimuli are sometimes necessary, I do not question; but they are the choice of evils, and such only ought to be used as produce a transient effect. Bark, bitters, and animal food, are most persistent in their effects, never failing to aggravate or cause inflammation. The writer cannot distinctly remember what mischief he did with bark on first setting out in life, as 38 years have since rolled by, sweeping away many reminiscenda; but within his clear recollection, he has seen enough in the practice of others, to make him confident in his opinion and stubborn as Cato—*“tenacem propositi virum.”* He does certainly remember giving it the first two or three years of his practice; but of this he has

no pleasant recollection; and he must have abandoned it on account of its inutility or the mischief it did.

Let the reader bear in mind, that I am treating of remitting miasmatic fever which cannot in my opinion be ever changed into typhus; this last is a specific disease and bears a very different relation to animal food and bark—a fact which alone might prove the natural discrepancy.

But how is it, you inquire, that many eminent physicians have used bark with safety and advantage in these very fevers? Have a little more patience and I will patiently tell you. The remittent and intermittent fevers are from one cause and ever ready to be converted into each other, but particularly the remittent into the intermittent. Now it is a fact that some remittents have, from the onset, very severe exacerbations ending in almost perfect intermissions. This is particularly the case in those whose exacerbations are worst every third day. Now in these cases there is a strong tendency to periodicity, to the forming of an intermittent, and hence the bark, if given in the sweating stage of the exacerbation, as practised by Clark and others, expends its stimulation on the skin, while its antiperiodic effects are valid in preventing or mitigating the next day's fever. In fact the remittents wherein the bark is found useful, are mere intermittents somewhat masked, hence bark is the appointed and heavenly remedy.

Thus quinine has sometimes been found to extinguish yellow fever; now this disease has been considered as allied to malignant intermittents from the peculiar remission on the third day; and in epidemics wherein this alliance is considerable, the quinine may sometimes prove fortunately useful. In malignant remittents there is known to be a distinguished tendency to intermission, and here it is therefore admissible.

In this disease, the very prostration which renders all these cases alarming, prevents that local inflammation that resists the just and salutary operation of the bark, in cases milder but more phlogistic. In fine, it is inflammation present or to come, conjoined with a fever essentially inflammatory, that prevents the proper operation of bark. In typhus fevers, this medicine may be used by an experienced hand, though they be attended by some inflammation; so it may be used in gout and rheumatism, but not with safety if an active phlogosis is on the increase.

In southern lands, there are many cases, and sometimes nearly whole epidemics, wherein there is very little inflammation and wherein too, the disease is characterized by a feeble circulation and an almost paralysed state of the whole man: here there is no fear of inflammatory action, hence the tonic powers of bark may raise the system above congestion, and its peculiar virtues may destroy the periodicity. Blessed medicine—which does more, through the ingenuity of physicians, than would seem to have been first intended. Among many proofs of this operation of bark in the South the reader may find some of the strongest in a paper by Dr. Wm. M. Boling on the fever of Alabama, *Amer. Jour. Med. Scien. New Series*, Vol. xii. 18.

But even in Southern climates bark cannot always be used with safety—witness the testimony of Mosely and Hillary, in the West Indies, and Johnson in the East, as well as many other authorities that might be adduced. Mosely, in treating of the remittent fever of the West Indies, says, 4th ed. Lond. 1803,—“if the fever be a recent one, and has a tendency to a remittent, (he is now speaking of intermittents,) the premature use of the bark impedes the secretions, causes strictures in the capillary vessels, and fixes immovable obstructions in the brain. This I have so often seen that I wonder at writers not observing more caution in advising bark early in the remission of fevers,” p. 192. He enumerates in p. 193 the evils that come from giving bark in remittent fever when there is any tendency to inflammation.” He declaims, p. 190 to 193, against the giving of bark till the body is fully prepared for it by evacuations, and before the intermissions are perfect. To the improper use of bark in intermittent and remittent fevers, he imputes dementia, insanity, inflammations, and various obstructions.

Dr. James Johnson lost all his patients in the remittent fever of Bengal, till he abandoned the bark, and took to bleeding and calomel. He says, “it was with a trembling arm and a palpitating heart that I first opened a vein.” See Johnson on “the endemic fever of Bengal,” and above all attend to his necrotomic phænomena. By the way it must be conceded that Dr. Balfour used bark in the same fever after evacuations; but he had to confess after some years, that obstructions of the liver were very frequent, and probably existed in all cases, that hence he would recommend mercury so as to effect the mouth.

Let us hear what Hillary says of the remittent fever of Barbadoes. By bleeding, emetics, and saline drafts, the fever "was generally carried off by a critical sweat on the seventh or ninth day; or in some few it came to *intermit regularly* after that time, and then was soon cured by the bark, given with saline drafts. Though these irregular, ingeminated fevers often remitted and sometimes seemed to intermit, yet if the bark was given too soon in the disease, before it *intermitted regularly*, (as I have more than once seen,) it generally caused the fever to become continual and *mali moris*."

There are some dangerous diseases that admit of two general methods of cure—one by debilitation and the other by tonics. These will forever exercise the ingenuity of man, and give abundant occasions of vehement contention, while both parties have truth and reason on their side. But we are now treating of the fever in Pennsylvania, and therefore it would be well to consider what some Northern physicians of great reputation have said.

Pringle says, part III. ch. IV. sec. V. "the cure of the camp fever, (he means the remitting and intermitting fevers,) depends chiefly upon evacuations and a low diet: the bark is useful when there are *complete intermissions*." Descanting on venesection, he says,—“a person unacquainted with the nature of this disorder, and attending chiefly to the paroxysms and remissions, would be apt to omit this evacuation, and to give the bark prematurely, which might bring on a continued inflammatory fever. Rush's edit. p. 178.

Now mark well—this great man used bleeding, purging, and abundant doses of tartar emetic, thus preparing the system for a complete intermission. At p. 182, he says—"I come next to the bark, and shall observe, that these fevers have often such fair remissions and even with a breaking of the water, as might persuade a physician unacquainted with their nature, that they would always yield to this medicine; but he would be often disappointed. Whether it be that some inflammation hinders the bark from taking effect, or that these quotidians are not true intermittents, (as not being of a tertian or quartan form,) certain it is that they can seldom be safely stopped by it. For though the paroxysms have disappeared under its use, yet having so often seen the breast affected or a lurking fever remain after giving the febrifuge, at last I made it a rule to attempt the cure without it, or at least to delay it till, in the convalescent state, the patient required it only as a strengthener."

In page 186, when treating of a worse form of remitting fever which he calls the *marsh fever*, he says, "it was necessary after due preparation, to stop it in the first *fair intermission*." And Dr. Rush in his note p. 182, says—"in the bilious remittents of the U. States, of the first, second, and sometimes of the third grade, the bark is ineffectual in curing them."

In p. 183, however, Pringle confesses, that when evacuations did not bring the fever to a crisis and the exacerbations were becoming worse, he gave bark, beginning "two or three hours before the sweat ended." Giving the bark during the sweating stage, if it was necessary, was a most prudent measure and accords with what we have said above. The stimulation is sweated off and the antiperiodic virtues remain. But Pringle took to the bark in these cases as a last resort, after his approved treatment had failed.

Donald Munro, Vol. II. 88 and 89, 2nd ed. says—"In the years 1761 when the fever came to remit, we were obliged for the most part to continue the diaphoretics; for although the disorder put on a remitting form, the bark had very little effect in stopping it, unless when the fever changed into a regular quotidian or tertian form." And again he says, "We tried the bark in various forms in many cases where the patient had been blooded and purged in the beginning, and had used the cooling medicines, and where the remissions were very clear, yet it had no effect in removing the disorder, except in a few cases wherein the paroxysms assumed a tertian form. For the most part, it made the patients more hot and feverish and we left it off, as it was in danger of changing the remittent into a continued fever."

Now mark what I said above—that when the bark succeeds in remittent fever, it must be when there is a strong tendency to run into the intermittent form. Now see here what Munro says page 90—"I have observed that in some seasons, it has a remarkably good effect, while in other seasons it rather seems to increase the heat and fever. In general the more distinct the remissions are, and the more the fevers of the season tend to perfect intermittents, the better effect the bark has."

The above are some of the best authorities, they were the instructors of my youth and I turn to them with pleasure—many others might be adduced, but time and space are wanting; moreover it is an invidious task to quote book after book which the reader is more

likely to know than the present writer. *Vivo Romæ* said Baglivi in excuse of his opinion: the present writer may say in palliation of his ignorance, *annos viginti quinque Northumbriæ vixit*—that he lived 25 years in the *Ultima Thule* of medical science.

Case of Chronic Farcy. Reported by JOHN H. WEIR, M. D.,
Philadelphia.

(—) *Novi*, aged 36; was never sick in his youth—of delicate constitution, without bad health; never has had any eruptions on his body, or inflammation of eyes or nose. His parents died of diseases having no relation to the one in question. He has heretofore been a stable boy, and the stable to which he was attached contained 26 horses, eight of which were glandered. He was specially charged with the care of these glandered beasts, and was often obliged to wash their noses and lips, that the disease might not be remarked when out of the stable.

Novi slept in the stable, which was damp and unhealthy; he had done so for three years. He has noticed for some time past that the horses were frequently sick, and from his description, it appears that most of them were affected with chronic farcy. He does not remember at what time exactly he became unwell, nor what was the exact cause of his disease. He ascribes it, however, to a kick on the axilla, which pained him so much as to confine him to bed for a short time. The pain was relieved by bleeding and leeches. He was soon much better, and able to attend to his work.

On the day after commencing his usual work he became suddenly so faint as to be unable to walk, and was soon obliged to seek his bed. This faintness was accompanied with nausea, slight vomiting, but no perceptible fever. Two or three days after he perceived a slight *running from the nose*. He had at the same time considerable pain in the pharynx, with slight difficulty in deglutition. No headach. His treatment at home was confined to simple ptisans and foot baths. A short time after having taken a foot bath he felt a violent pain, both in his arms and legs. The *next* day his legs were covered with tumors, which increased rapidly.

From the commencement of the attack the patient has been confined to bed.

On the 19th August, patient entered Hotel Dieu, service of M. Guenau de Mussy.

At the first examination he presented the following appearance.

General emaciation; great prostration; pulse 70, easily compressed; slight heat of skin; appetite pretty good; tongue red; but little headach. Patient sleeps soundly; perfectly free from any starting in sleep.

On both anterior and posterior pillars of the throat there is much redness. The uvula is of a deep red, swollen, and clotted with whitish *plaques*; the patient is continually *sniffing*, spits rarely, and always pure saliva. Nothing remarkable in the anterior portion of the nasal fossæ, which are entirely dry. The excretions are normal and regular. There exists on different parts of the body a large number of fluctuating tumors; one on the lower part of the left thigh, of the size of a hen's egg; one on the inner side of the right thigh; one smaller, on the calf of right leg; one on same leg above the last mentioned, and more deeply situated; another below and around the tendo Achillis; one at the inner and inferior portion of the right thigh. The right calf is extremely painful, somewhat reddened, tense and fluctuating, apparently filled with pus. Under the right pectoralis major, precisely at the point where the leeches had been applied, is another and large abscess.

These tumors are painful to the touch, and some of them slightly reddened. There is no appearance of pustules on the body. Patient has never had any severe wounds or cuts; never has taken snuff, and has stopped smoking for several months. There is no pain in the abdomen; no cough. The chest is perfectly healthy, with nothing abnormal about the heart. No abscesses or pustules are to be found in the hair; and no engorgement of the lymphatics can be found in any part of the body. Both feet, the right one particularly, are the seat of a very tense and painful œdema. Motion in the feet and ankles almost destroyed.

R. Friction of Mercurial Ointment over tumors, with Dover's Powder, grs. xii.

In the evening no change.

20th. Patient slept quietly all night, sweating profusely this

morning. The symptoms are generally the same. Pulse 76; tongue dry and red; no expectoration; the tumors are all painful, with the exception of the one over the pectoralis major; the urine is of a dark color, not muddy; there is no deposit on standing, and the odor is natural; there is a perceptible diminution of quantity, and when treated by nitric acid, there is a slight whitish precipitate, which, when heated, leaves no residue.

From the 20th to the 31st the symptoms continued the same; the abscesses, as they formed, were opened, and discharged freely a grayish pus, with the consistence of cream and colored with blood. New abscesses continued to form, and, in consequence, the strength of the patient diminished rapidly. The appetite was gradually lost, and the urine decreasing daily in quantity, becoming, on the 31st, somewhat purulent.

3d September. The urine is yellow, slightly tinged with red, alkaline; no precipitate from nitric acid, and contains a sensible quantity of albumen and salts of lime—but little uric acid.

7th. Patient died this morning without pain, and with mind perfectly clear to the last.

At the autopsy all the internal organs were found healthy, with the exception of the bladder, which showed traces of inflammation, and in some places slight erosion of the mucous coat.

Treatment of Scarlatina. By G. W. BROWN, of Port Carbon, Pennsylvania.

To the Editor of the Medical Examiner.

I send you a few notes of my practice in scarlet fever, as it prevailed in this neighborhood in the fall, spring and winter of 1847-'48. I have notes of 126 cases, 21 of which proved fatal. Of the fatal cases, eight died of hydrocephalus; one of hydrocephalus with laryngitis; one of general congestion of the whole venous system; one of ophthalmia, with inflammation of the bowels; one of inflammation of the throat and bronchii; one of abscess of the neck, by which the jugular vein was divided; and three of pericarditis, with general dropsy. One died on the first day, two on the third day, eight on the fourth day, three on the sixth day, one on the tenth day, two on the eleventh day, one on

the thirteenth day, one on the fourteenth day, and one on the twenty-second day. Of the secondary affections, dropsy followed in fifteen cases, pericarditis accompanying in six, three of which proved fatal. Rheumatism occurred in six cases, and abscesses in sixteen cases. Four of the cases were adults, and all recovered. Convulsions ushered in a number of cases, but one in particular, in which they lasted for twelve hours, occurring every twenty or thirty minutes. I did not find those cases in which convulsions occurred at the commencement, any more severe or intractable than the others. Those cases in which complete desquamation of cuticle took place recovered most rapidly, and were least frequently followed by secondary affections. Dropsy occurred in the mildest cases; some of them requiring scarce any treatment at all, except an occasional cathartic. In those cases, the affection of the skin being apparently insufficient to eliminate the morbid poison from the system, it fell upon some other organ or tissue of the body. In the commencement of the epidemic I adopted the treatment usually recommended in the books, viz.: an emetic followed by calomel, pepper gargles, laxatives, diaphoretics, tepid sponging and counter-irritation to the throat; but this I soon found to be lamentably deficient, for I lost fully one-half of my cases. About that time, in conversation with Dr. J. S. Carpenter, of Pottsville, I was speaking of the fatal nature of the epidemic, and of the inefficiency of our present mode of treatment, when he suggested a strong solution of the *nitrate of silver* to the throat internally by means of a *probang*. I adopted it immediately, with the most happy results, in all of my cases. Of the last fifty cases treated by it, I scarce lost a patient. I sometimes used a strong solution of the *sulphate of copper*, especially where I desired to vomit the patient at the same time, as was often the case where the throat was filled with shreds of membrane, fœtid matter, &c.; but I think the *nit argent.* preferable in all cases. The strength of the solution was $\mathfrak{3}i.$ to the \mathfrak{z} of water. I applied the nit. arg. in all my cases as soon as I was called, whether there was ulceration or not, and repeated it once or twice daily till the patient was convalescent. In malignant cases I also used the chloride of soda internally, besides using it as a gargle, and I thought with decided benefit. Blisters, with few exceptions, did no good, but, on the contrary, I thought they did harm by increasing irritation. Lini

ments, particularly of iodine, answered better, especially where there was enlargement of the absorbent glands. My treatment then consisted in an emetic at the commencement, followed by calomel in doses of two or three grains every two hours till the bowels were freely moved; then laxatives, to keep up a gentle action on the bowels, sufficient to remove morbid secretions. A mixture of equal parts of the syrup of ipecac. and spir. nit. dulc., to keep a gentle action on the surface, and at any time that it was indicated, pushed sufficiently to produce full vomiting. Nit. arg. to the throat internally, once or twice daily, with gargles of the chloride of soda, and internal administration of the same, when indicated by malignant symptoms. Liniments to the neck, and tepid affusion to the whole body. Cool air and cold applications to the head in the shape of evaporating lotions, so long as the fever continued. I sometimes made use of venesection with decided benefit, but only in vigorous constitutions, and in the very early stage of the disease. Dropsy was treated by bleeding freely and purging, with diuretics and counter-irritation in the latter stages. Pericarditis was treated by the same means as the dropsical effusion, only more promptly. Squill, nitre, digitalis and calomel, in combination, I found to be almost a specific in the second stage of pericarditis, especially if it purged freely.

Ulceration of the Cæcum,—Hæmorrhage,—Death. By H. A. RAMSAY, M. D., Raysville, Georgia.

On the 1st ult. I was called to see Emanuel, belonging to Mr. C——, of this vicinity. The patient was a stout, robust man, ætat. 24. He had been complaining of some slight pain in his *bowels* and *lumbar* portion of the spine for several weeks, together with some perversion of his appetite; not sufficient, however, to prevent him from being about, and attending to light work. On the 1st he grew suddenly worse, and was obliged to go to his bed. When sent for I found him rather restless, pulse soft and voluminous, but not increased in action; skin warm and comfortable, with the exception of his hands, which were cool; tongue soft, sides white, middle red; pressure upon the epigastric region and the abdomen generally produced some evidence of tenderness; he said,

however, that he felt no pain, yet at the same time he was giving vent to constant groans and sighs. I was induced to think he certainly *felt* pain, from his complaining so constantly, but he positively denied the existence of any, although repeatedly interrogated by myself and Dr. Collins, who saw him subsequently. The patient said he had had regular alvine evacuations daily; he was rational, and without mental disturbance at any time; his spine exhibited no tenderness on pressure; his stomach was not disturbed by *nausea*, nor was his urinary secretion in the least deranged. This is all the information that could be elicited by Dr. Collins and myself, although we examined him very minutely. We prescribed calomel in repeated doses during the night, sinapisms, and an opiate to calm his restlessness, and emollient poultices to the abdomen. At 2 o'clock at night the mercurial produced a green biliary evacuation, shortly after which he had a copious discharge of clotted blood; but few minutes had elapsed ere another took place. These continued to increase greatly, and alarmed those watching. I was called immediately, and found the man weltering in his blood, *pulseless*, rolling from side to side of his bed, *moaning* but *rational*, and declaring that he felt no pain. I examined the rectum and found the blood running almost in a stream. Seeing he would die in a few moments, unless relieved, I plugged the *rectum*, gave him freely of brandy, applied mustard plasters, and ordered a laudanum enema—having despatched a boy for a syringe, but ere he returned the patient had sunk.

Two hours after death, in the presence of Dr. Collins and several gentlemen, I made an autopsy. The stomach exhibited no disease. The spleen was corrugated. The liver contained some dark grumous blood, but looked natural and healthy. The intestinal tube did not exhibit any marked signs of disease, excepting in the cæcum, where it was ulcerated for nearly two inches, the ulceration presenting a dark greenish color, like mouldy cheese; near the middle of the ulcer there was exposed the mouth of an artery, the coats of which had evidently been destroyed, thus producing the hæmorrhage. The calibre of the bowel was very much diminished; the appendix vermiformis was smooth and indurated; and about the point of ulceration the mesentery presented some marks of purulent deposition. We did

not examine the brain; the bladder was sound; there was some effusion into the pericardium; the lungs were healthy.

The patient died in less than three hours from the time the hæmorrhage began.

How long could this ulcer have existed before his death?

BIBLIOGRAPHICAL NOTICES.

Inflammation: its Symptoms, Causes, and Treatment philosophically considered. By J. P. BATCHELDER, M. D. New York. 1848. Pamphlet, 8vo. pp. 66.

The object of this essay, and the motives which induced its author to prepare and publish it, are thus unfolded by himself: "So much has been written on inflammation, that it may be deemed quite superfluous to present to the medical public any additional remarks; but having seen no pathological views from which the indications of cure, and the *methodus medendi* seemed to flow as natural, regular and legitimate deductions, the writer proposes for consideration a theory which he hopes may contribute to remedy that defect." And he adds, "Whether the endeavor will be crowned with success, or the views presented meet with any favor, other than a candid examination, is to him quite problematical." p. 3.

We will endeavor to give a brief synopsis of the author's views.

He considers that the *proximate* cause of inflammation—that phenomenon, in the language of Parry—"that phenomenon in the body or part most immediately preceding the state which we call disease, and without which previous phenomenon the disease is not known to exist," is "a suspension of the normal resistance, a relaxation, a yielding, a diminished action of the capillaries of the part that admits, upon hydraulic principles, of the inflowing of fluids by which they (the capillaries) are over distended. This want of action, this non-resistance, continues until the distention has proceeded so far as to excite actual resistance in the capillaries, and then, and not until then, can we affirm the existence of

the disease. The action of the vessels is then increased. This increased action" (*contraction*, the only mode of increased action of which the capillaries are capable, as stated at page 16,) "the final end and natural consequence of which is, not only to prevent the additional influx of fluids, but to force them out of the inflamed part, constitutes the true *vis medicatrix naturæ*; for it causes, or attempts to cause, and if successful does cause, the reflux of fluids into the general circulation, which is equivalent to an evacuation by art." p. 17.

Thus, it will be perceived, inflammation is supposed by the author to consist, at its outset, in a painful distention of the capillaries, a condition of commencing, active, salutary resistance to a preceding state of relaxation, its proximate cause.

The occurrence of this primary and essential state of relaxation is thus explained: The blood which circulates in the capillaries is regarded as their natural stimulus which prompts them to action or resistance. When the vessels are healthy, and their contents natural in quantity and quality, action and reaction are duly balanced, and every function normally performed. And before this equipoise can be subverted, and an anormal relaxation of the capillaries induced, the author contends that a stronger impression must be and is exerted upon a part, than that made by the fluids on the inner surfaces of their containing vessels; in which event, and in obedience to the axiom that the stronger effaces the weaker impression, the vessels "cease their resistance, and yielding, suffer themselves to be distended, over-distended, and stretched, until they are excited to resist, and that painfully," p. 14. The agents by which this state of things is brought about constitute the *exciting causes* of inflammation. They may be "external agents acting mechanically, chemically, or physically upon any part of the body; or causes affecting the whole system; or the disease may arise spontaneously,—that is, without any apparent cause." The first-mentioned class of causes operates directly by producing a stronger impression on the surface upon which they act, than that made by the blood upon the internal surface of the capillaries beneath this surface, and consequently and indirectly occasions a relaxation of these vessels; and since, naturally, the blood in the capillaries is acted upon all over the system, at the same instant and with an equable force, (the *vis a tergo*,) if the resistance op-

posed to this force is weaker at one point than elsewhere, thither will there be a greater afflux of blood. The *second* class, among which the author considers cold and malaria, is supposed to "excite a general contraction of the capillaries throughout the entire body, which is followed by a spontaneous relaxation commensurate in extent and degree with the previous contraction; if under such circumstances any part or organ, from predisposition, hereditary taint, disease, injury, age or sex, be weaker than the rest of the system, its vessels having less power of resistance, will yield and be over-extended, an effect which will be greatly enhanced by the increased energy with which the heart will act in consequence of its own capillaries having, simultaneously with those of the other organs, relaxed, and of course admitted more arterial blood into its very textures, as well as into its cavities." Or, if the cause thus acting be extensive and powerful, and applied to the surface, the vessels of some internal organ, in obedience to the law propounded, may relax and suffer themselves to be over-distended to the development of inflammation. p. 15. *Thirdly*, there may be no apparent cause, and yet in consequence of "great weakness, or readiness in the capillaries of some part to relax and yield to the distending influence of the fluid which they contain," the same phenomenon may be induced. p. 15.

The author easily explains the symptoms which are considered as denotive of inflammation,—“redness, swelling, pain and heat.” “1st. Redness arises from an increased determination and admission of blood into the vessels of an inflamed part, and particularly such as in a state of health circulate colorless fluids.” He regards this as an essential symptom, and he thinks that, although it sometimes exists without inflammation, the latter cannot exist when it is absent; and further, that by the degree of the redness present, the stage, rapidity and violence of the disease may be pretty accurately distinguished. p. 3. 2d. The tumefaction or swelling he ascribes to two causes,—to the presence in the vessels of an unusual amount of blood, “proportioned to the diminution of their resistance and the intensity of the *vis a tergo*; and also, and chiefly, to the effusion of serum, albumen and coagulable lymph.” p. 4. Concerning this latter cause of the swelling, the author thus reasons. “How does this effusion take place, and by what law is it governed or regulated? We come to the principle. If

from any cause the capillaries be suddenly or violently distended, or over-distended, and consequently prompted to act violently, or inordinately, as in inflammation, the pores, like the sphincter of the bladder, or of the anus, similarly circumstanced, act or resist no less violently or inordinately, and consequently suffer no fluid to escape; and this we conceive to be the precise state of the vessels and pores in the early stage of that disease, and is analogous to that of the vessels on the surface during the hot stage of an intermittent, in which the skin is dry.

“At this period there is no other swelling than that occasioned by the distended state of the vessels of the part. There is no effusion of serum, none of fibrin. There is mere congestion; the vessels over-distended, the pores constricted and resistant. How then, we repeat, is the effusion produced? The principle is this, that rest shall succeed to action. This law results from necessity, and is consequently universal, reaching and controlling all vital movements; hence, vascular contraction is followed by the spontaneous relaxation to which we have alluded, and which, generally, is in proportion to the previous contraction. Therefore, in obedience to this law, the pore, or sphincter, as the case may be, which has been for some time resisting powerfully and completely the inordinate action of the vessel or viscus, and of course preventing the transmission of the fluids by which the latter (the vessel or viscus) were distended, now in its turn foregoes its resistance, relaxes and allows the effusion of serum or fibrin to take place into the inflamed part, or perspirable matter over the whole surface, as in the sweating stage of an intermittent, (or the escape of its contained fluid from the containing viscus, Rev.) In these cases the overdistended vessels are relieved. The final end of this effusion is to empty the vessels; in other words, to cure the disease. This is the method of nature, and also of art—a fact of which the practitioner should never lose sight.

“If this want of equilibrium between the vessels and pores continues but for a short time, and the effusion be but slight, resolution is said to have taken place, which is one of the terminations of inflammation mentioned by systematic writers; but with all due deference, we are disposed to consider the effusion by which the vessels are emptied and relieved as the only legitimate termination of that disease—if indeed we except gangrene. If the state of

distention continue several days, the effusion may be considerable and of a mixed character, as serum, albumen, coagulable lymph, or even blood. It constitutes the principal cause of the swelling. We are, however, ready to admit that want of absorption and the generation of new vessels tend in some degree to augment the tumefaction; and here it is proper to remark that the formation of new vessels is often exceedingly rapid, which, with the secretion of pus, has been reckoned among the causes of swelling." pp. 5, 6.

The *third* symptom, *Pain*, the author says, "in all cases, without a single exception, as we believe, arises from one of two causes—an over-constricted, or an over-distended state of the vessels." And again, "it may be laid down as an axiom in physiology and pathology, that whatever diminishes the influx of red blood into a part, or forces it out, produces a corresponding diminution of its susceptibility of impression." p. 8. And the reverse, he also contends, is true—that the sensibility of a part is proportionally exalted by increments in the amount of red blood sent to it. The author's remarks upon the true signification of the pain suffered, and the specific character of pain which appertains to each particular tissue, are, we think, very just, generally.

The *fourth* symptom, *increased heat*, he does not regard as essential, or as particularly important. The inference drawn by him, from his premises and reasoning, is, "that this fourth symptom of inflammation is seldom present unless the skin, or mucous membrane in its immediate vicinity, is involved, and that it always indicates an over-distended state of the capillaries of the part, and gives intimation that changes are going on in the tegumentary structures, which interfere with their functions, or threaten their integrity." pp. 12, 13.

The plan of treatment recommended by the author does not differ, generally, from that pursued by physicians of judgment and experience. This branch of the subject is examined under two main points of view:—1st, the conditions upon which the over-distention of the capillaries are maintained; 2d, the mode of relieving this over-distention. The *first* depends upon the constant antagonism, as the author supposes, which exists between the *vis a tergo* and the "*pores*" of the capillaries, and the morbid predominance of resistance of the latter over the former, so that the fluid in the vessels is not permitted to escape. The *second*—

the method of obviating this condition—consists in lessening “the *vis a tergo* so as to restore the equilibrium between the vessels and the pores;” in diminishing “the effect of the fluids impinging against the inner surfaces of the capillaries, which excites them to inordinate action, and disturbs the harmony of function between the vessels and the pores;” and lastly, in counteracting the results of the disease. To secure these ends the whole antiphlogistic regimen and treatment is advised in full force—comprising strict attention to diet and hygienic conditions, general and local bleeding, the free use of emetics and cathartics, of arterial and nervous sedatives, the ordinary topical applications, and rest of the whole body, or of the affected part, in the proper position.

After having thus discussed the subject of inflammation, and its treatment, the author devotes the remaining pages, 47—66, of his pamphlet to the consideration of the commonly-called “*terminations*” of the disease, viz., Resolution, Adhesion, Suppuration and Ulceration—he himself, however, admitting of “but one legitimate termination, *i. e.*, by depletion,” by which he means the removal of the fluids from the vessels of the inflamed parts, either by their spontaneous contraction, or by the assistance of art. pp. 17, 47.

It would be foreign to our purpose, at present, to enter into a discussion of the subject of inflammation, further than the bearing of this pamphlet upon it requires. We have given the author’s tract a careful perusal, and have derived pleasure from it; but we think that it is amenable to some strong objections, and we shall state them in that spirit of candor and respectful consideration which the author himself invites.

It is well known that there are now two chief theories with regard to the condition of vital action in the capillaries of an inflamed part. Both admitting that these vessels are increased in diameter, in order to accommodate the augmented supply of blood which they are acknowledged to contain, one theory supposes that this dilatation is the result of an increased action of the capillaries, under the influence of the organic nerves, while the other contends that these vessels are in a debilitated condition, and that their enlargement is the result of a passive relaxation. The author of the treatise under examination adopts the latter view. He assumes, without examination, that the only mode in which increased

action can be manifested in a capillary is a *diminution* of its calibre, and that, consequently, the first theory must be wrong. Without attempting to decide positively between these two views, we incline to adopt the first, believing that it is based upon more tenable ground, and that it affords a more easy and rational explanation of the phenomena of inflammation. We think that increased action of the capillaries, the result of increased organic nervous influence, is not only compatible with, but productive of expansion of these tubes; the phenomena of blushing and other local determinations of blood, under similar causes, and the condition of the capillaries in hyper-nutrition, render it more than probable that a similar condition of the vessels exists in inflammation. This active expansion may continue, or it may, at length, be changed, from exhaustion of nervous force, into a state of passive dilatation. This seems to us a more probable supposition, and more analogous to what we generally see of the effect of long-continued exercise of all organs, especially of hollow organs, than that the capillaries should, after long resistance to the distending power of the affluent blood, and after being "distended, and over-distended" thereby, be capable of active, sustained contraction so as to expel the blood from their interior. (p. 17.) And it renders unnecessary the assistance of such an influence as that which Dr. Batchelder invokes in the explanation of the occurrence of distention of the capillaries,—the action of an impression upon some part stronger than that made by the blood upon the inner surface of these canals. (p. 14.) The idea of the existence of such an influence or action is entirely groundless; for it supposes, of necessity, that the circulation of the blood in the capillaries is assisted by the elastic resistance of these vessels to the blood, "which is their natural stimulus, and prompts them to action." Now the most enlightened physiologists of the present day contend, that the contraction of the heart and the elasticity of the arteries are the forces which propel the blood through the capillaries, and that the latter exert no mechanical action upon it; that the motion of the fluid is equable, not pulsatory, as would be the case if the capillaries reacted upon the blood which filled them.

The capillaries possess a degree of *elasticity*, and a capability of accommodating their calibre to the amount of fluid which they

contain; but this is a very different property from the *contractility* which responds to a stimulus, as that of the heart, which causes it to act upon and expel the blood from its cavities.

We dissent, also, from the author's views with respect to the structure of the capillaries. He regards them as being possessed of "*pores*," which, if we were to be guided by his mode of speaking and reasoning concerning them, are distinct and visible outlets. The walls of the capillaries partake, undoubtedly, of the general porosity of all membranous textures; but their pores are not visible, and still less are they, by any stretch of fancy, to be assimilated or likened to the sphinctered orifices of the bladder, uterus, rectum, and stomach, as is attempted by the author; (p. 19, et seq.) consequently, all the reasoning based upon this falsely assumed similarity of structure and function must pass for nothing.

The author has entirely neglected to notice the affinity which inflammation excites between the walls of the capillaries and the modified fluid which they contain, and the effect which this must have upon the circulation in the inflamed part.

The account of the symptoms of inflammation embraces no mention of altered functions of the tissue or organ involved, and the explanation of the symptoms is insufficient and faulty. Thus the pain of the disease is ascribed to stretching of the nervous fibrils, in consequence of the swelling of the part, and to over-distention or over-contraction of the capillaries, and is said to be closely proportioned to the amount of red blood circulating in them. The vital changes, of which the nerves of the part are the subjects, are not alluded to. The temperature, too, of an inflamed part is affected by other circumstances than the amount of arterial blood, and does often rise higher than that of the blood in the heart, in consequence of increased vital action occurring in the diseased structure itself. (Copland, and others.)

To the views expressed as to the treatment of inflammation, we have nothing particularly to object, excepting that they are chiefly or wholly applicable to the sthenic form of the affection; indeed, throughout the Essay, asthenic inflammation is very imperfectly, if at all, considered. In speaking of general bloodletting the author alludes to *syncope*, which, he says, "consists in a universal and extreme contraction of the capillaries;" and that he considers

this to be an *active* condition, is obvious from the following sentence: "Now this violent and universal contraction of the capillaries must be followed by a *spontaneous relaxation*, or the patient will die." (pp. 25, 26.) How there can be such an active force in a condition characterised by such complete prostration of all energy as is syncope, we do not comprehend. Nor do we understand how the author can promulgate such an idea as this: "for an obvious reason we should be in no hurry to remove the syncope; as a general rule, the longer it continues, and the more slowly it goes off, the better." (p. 33.) We should rather inculcate the necessity of a speedy restoration, under the impression that the longer the syncope continued the greater the danger that it would be irrecoverable, and that, (if it be permitted us to perpetrate "a bull,") if the patient should recover, it would only be to find himself—*dead*.

The author's remarks concerning the organization of effused plastic matter, the mode of formation of new vessels, and the object of their formation, appear to us to be very erroneous. He says, p. 6, "the effused fluids, if too great in quantity to be absorbed, will remain an incumbrance, greatly interfering with, or wholly suspending, the function of the organ; therefore, to get rid of them, the suppurative process is instituted by nature in the simplest manner possible; to wit, by the formation of new vessels and consequent organization of the effused lymph. The secretion of pus, then, is the final end of the formation of new vessels. How are they formed? On this point we shall hazard a conjecture, which, like the theory promulgated in this paper, was framed many years ago:—that a globule of blood escapes from a vessel, probably the same which furnished the lymph, through which it (the globule) makes its way, and thus forms a channel along which other globules, following close and in rapid succession, continue to move, until the track becomes a vessel; similarly occurring results take place on every side; globules after globules escaping from other vessels, pass in all directions, till channel runs into channel, and globule joins globule, when they will move in that direction in which they are most forcibly impelled by the *vis a tergo* which continues to urge them along, until the channels are converted into living vessels, temporary or permanent, according to subsequent circumstances."

We do not wish to deny the author's claim to originality of theory, as regards his explanation of the manner in which new vessels are formed in the effused fibrin, although we have before seen the same view expressed by other writers. We cannot, however, think that it is correct. A globule of blood can only escape from a capillary vessel through a rupture of the wall of the latter; and, even admitting that such a rupture does occur, and that a globule is forced by the *vis a tergo* through the rent, across the coagulated fibrin, which seems to us improbable, how is it supposed to find its way to a venous channel? We grant that the blood globule is a living cell, endowed with wonderful properties, physical and vital, and that nature is exhaustless in her resources and in her means of accomplishing her ends; but we can scarcely think that she would expend her energies in the mode advocated by the author. Let the reader imagine the curious and amusing spectacle presented by an indefinite number of ejected blood-discs careering "hither and yon," across an intervening septum of plasma, in search of refuge and shelter upon the opposite side; it will remind him of some of Milton's Wanderers in Chaos,—

"Embryos and Idiots, Eremites and Friars
White, black and grey, with all their trumpery."

We would rather embrace the views of Schwann, Vogel, Carpenter and some others, which suppose that vessels are formed in exuded fibrin in the same manner as in the original tissues in primary development; yet even here we acknowledge the difficulty of explaining the mode by which the new vessels unite and innosculate with those of the pre-existing surface or surfaces. Or we would still rather adopt the explanation of Mr. Kiernan and Mr. Travers, formed from observing that "inflamed capillaries become varicose, and at points project in pouches and diverticula, and stretch into loops. If these give way, argues Dr. Williams, the blood would be injected into the lymph; and if something of channels were previously formed by the arrangement of the fibrils of the latter, or the elongation and communication of cells, it is quite conceivable that a current would be effected by the *vis a tergo* through several openings, and that a return of the blood would take place by a reversal of the weaker currents." (*Williams' Princ.*, p. 252.) But no such rupture is necessary,—the

blood being conveyed through channels formed by "out-growths" from the original vessels.—(*Travers*—Inflam. and the Healing Process; also, *Paget*, Sect. 4th, *London Med. Gaz.*—July 13th, 1849.)

However formed, "the final end" of their production is, we conceive, the organization of the effused fibrin, not "the secretion of pus," as Dr. Batchelder contends.

With reference to this latter point he says, p. 52, "Suppuration has been usually considered one of the terminations of inflammation; but the intermediate links between inflammation and suppuration seem to have been overlooked, viz., the effusion of coagulable lymph, and the formation of new vessels, which, with a single exception, (in the inflammation of mucous membranes, and this only an apparent exception,) always precede the secretion of pus. These new vessels which secrete the pus, with the parenchyma which connects them together, compose the granulations, which, being piled one upon another, fill the cavity, and constitute what is technically called "*union by the second intention.*" Although we sometimes speak of "laudable pus," the formation of matter is never the product of healthy action. It may be modified by the part affected, the state of the constitution, the cause and character of the disease." And again, (p. 53, note,) "we remarked that, if the effusion of coagulable lymph was so large in quantity as to prevent the new, or primitive, vessels, which shoot into it, from innosculating with one another, they immediately commence secreting pus, which is deemed to be "altered blood;" and that the alteration of the blood, so as to constitute it pus, is the function of the new vessels, but they answer a secondary process, viz., the organization of the lymph;—their peculiar, appropriate and primary function is, we repeat, the secretion of pus. All that is required is, an investment of fibrin about new vessels, or the old ones elongated, in order to enable them to perform this function." Again, (p. 7,) "the primitive vessels, if elongated into the adventitious lymph, will secrete pus. But the business, so far as an abscess is concerned, is probably done chiefly by the newly-formed vessels, which are little other than imperfectly animalized tubes, that can exert no other than a mere altering influence upon the blood, which it converts into pus."

We think that there are many inaccuracies in these and other

passages, in which the author expresses his views on the nature of pus, and the mode of its formation. In the first place, we object to the idea that the blood-vessels perform the part of secreting organs under any circumstances; they have a single office, that of conveying blood, and hence are, at best, merely *accessories* to the process of suppuration, as of nutrition and secretion; these complex actions are the results of the operation of agents and influences external to the vessels upon the fluid which the latter have conveyed to the tissues—the centres of nutritive and secretory life. Neither can pus be considered as “*altered blood.*” It is the result of a special organization of exuded fibrin, “an organization on which the character of pus is dependent, and which distinguishes it from other morbid products.” (*Vogel.*) It is essential to the formation of pus, says this distinguished pathologist, first, that a fluid shall be secreted or separated from the blood, to serve as a cytoblastema, and this fluid is fibrin, as it exists in the liquor sanguinis, or in coagulated blood; this plasma may be of a healthy character, or more or less abnormal, it may be fluid or solid; secondly, it is necessary that the pus-corpuscles be formed in and from this pabulum, owing, probably, to a tendency possessed by the exudation itself to develop organized products. “The uses of the formation of pus to the organism consist in this, that by its means exudations which were originally fluid, and would have become solid, are prevented from coagulating; and those already coagulated again become fluid, and thus the conditions requisite for their removal are effected.”—(See also the fourth lecture of Mr. Paget.)

F. W. S.

Catalogue of Skulls of Man and the Inferior Animals, in the collection of SAMUEL GEORGE MORTON, M. D., Penn. and Edinb. President of the Academy of Natural Sciences of Philadelphia, &c., &c. pp. 84.

It was said of Sydenham, that if, in any one way, he differed from other men, it was in his power of continued attention—of faithful, unbroken observation. “It requires more strength and firmness of mind,” says his reviewer, “more of what deserves to be called genius, to make a series of genuine observations on medicine, or any other art, than to spin any number of nice hypotheses.” This justly applies to the industrious author of the work before us. For twenty years has he been engaged in collecting from every source the materials of this catalogue, (upon which, also, are based his well known works, “*Crania Ægyptiaca*,” and “*Crania Americana*.”) His cabinet, which forms a striking feature in the Museum of the Academy of Natural Sciences of Philadelphia, now contains 1468 crania, of which 867 are human, and the remainder those of the inferior animals.

The primary motive of the author was a comparison of the crania in the different races of men, and these again with those of the inferior animals; not only in reference to the exterior form, but also to internal capacity, as indicative of the size of the brain. Besides these strictly Ethnographic objects, the pathological condition of the skull from diseases and wounds, as well as remarkable developments illustrative of the principles of Phrenology and preternatural growth of every description, were prominent in the author's mind.

The following analysis exhibits an Ethnographic view of the materials contained in the entire series.

I. *Caucasian Race*.—Anglo-American, 8; Anglo-Irish, 1; Armenian, 6; Affghan, 1; Arab, 3; Arab-Egyptian or Fellah, 19; Celtic Irish, 5; Circassian, 4; Dutch, 1; English, 5; Egyptian, Ancient 84; Græco-Egyptian or Pelasgic, 22; Guanché, 1; German, 13; Hindu, 35; Midianite, 1; Parsee, 2; Phœnician, 1; Prussian, 4; Swede, 2; Semitic-Egyptian, 7; Uncertain, 1.

II. *Mongolian Race*.—Chinese, 7; Laplander, 1.

III. *Malay Race*.—Amboynese, 3; Bornese, 2; Ballinese, 1; Cingalese, 1; Javanese, 5; Kanaka, 7; Makassar, 3; Madurese, 2; Malakese, 1; New Zealanders, 3; Sambawese, 1; Tagelos, 1; Various, 4.

IV. *Aboriginal American Race*.—Assinaboin, 3; Araucanian, 7; Aztec, 2; Arickaree, 3; Chechemecan, 1; Cotonay, 3; Cayuga, 1; Cherokee, 5; Chetimaches, 2; Creek, 2; Choctaw, 1; Charib, 2; Chippeway, 2; Chimuyan, 1; Chemesyan, 1; Chenouk, 7; Cowalitsk, 1; Clatsap, 1; Clickitat, 1; Chayenne, 1; Dacota, 1; Euchee, 1; Gepepscot, 1; Huron, 5; Illinois, 2; Iroquois, 2; Kalapooyah, 1; Klatstoni, 1; Lenape, 3; Lipan, 2; Mexican, 12; Manta, 1; Mandan, 7; Minetari, 4; Missouri, 1; Mingo, 1; Miami, 6; Mohawk, 3; Menominee, 7; Massasauga, 1; Maya, 1; Mound and cave skulls, 17; Natchez, 1; Natick, 1; Naumkeag, 1; Narraganset, 10; Nanticoke, 1; Ottomie, 5; Ottigamie, 3; Oneida, 1; Osage, 2; Otoe, 4; Ottowa, 4; Peruvian, 201; Pawnee, 2; Potowatomie, 3; Pames, 2; Quichua, 1; Quinnipiak, 1; Seminole, 15; Sauk, 3; Shawnee, 4; Shoshone, 3; Tlahuica, 1; Tlascalan, 1; Upsarooka, 2; Winnebago, 2; Yamassee? 3; Uncertain tribes, 5.

V. *Negro Race*.—Native African Negroes:—Benguela, 1; Bassa, 3; Congo, 1; Grabbo, 1; Mina, 1; Mozambique, 2; Kroo, 2; Eboe, 2; Golah, 2; Pessah, 3; Dey, 2; Macua, 1; Various, 57. Negroes born in America, 12; Embalmed Negro, 1; Caffer, 1; Hottentot, 3; Australian, 8; Oceanic Negro, 1; Hovah, 2; Tashmanian? 1.

VI. *Mixed Races*.—Copt, Modern, 3; Hispano-Peruvian, 2; Mulatto, 2; Negro and Indian, 2; Negroid Egyptian, 11; Copt, Ancient, 2; Modern Nubian? 1; Uncertain, 2.

VII. *Lunatics*.—Anglo-American, 2; English, 1; German, 1; Irish, 1; Mulatto, 2; Negro, 2.

VIII. *Idiots*.—Anglo-American, 1; Dutch, 1; European, 1; Ancient Egyptian, 2; Malay, 1; Negro, 1.

Skulls illustrative of growth, 7; Skulls illustrative of disease, 9; Casts of skulls, 26.

The measurements of the internal capacity of the crania mentioned in this catalogue are the result of the labor of the author's own hands, and have been restricted to those of individuals of sixteen years of age and upwards, at which period the brain is believed to possess the adult size. The method of obtaining the internal capacity is singularly accurate, a hundred measurements not varying a single inch. It consists in substituting leaden shot, $\frac{1}{8}$ of an inch in diameter, for the white mustard seed originally used. The foramina are stopped, and the cavity of the cranium filled with shot through the foramen magnum, until, by shaking and compressing, it will contain no more. The shot are then transferred to an accurate measure prepared for the measurement of cubic inches, by which the internal capacity is accurately marked. The following table expresses the size of the brain in cubic inches, as obtained from the measurement of 623 crania of various races and families of men.

"TABLE,*

Showing the Size of the Brain in cubic inches, as obtained from the internal measurement of 623 Crania of various Races and Families of Man.

| RACES AND FAMILIES. | | No. of Skulls. | Largest I. C. | Smallest I. C. | Mean. | Mean. | | |
|--------------------------|----------------------------|-------------------------|------------------|-------------------|-------|-------|----|----|
| MODERN CAUCASIAN GROUP. | | | | | | | | |
| TEUTONIC FAMILY. | | | | | | | | |
| | <i>Germans,</i> | 18 | 114 | 70 | 90 | } 92 | | |
| | <i>English,</i> | 5 | 105 | 91 | 96 | | | |
| | <i>Anglo-Americans,</i> | 7 | 97 | 82 | 90 | | | |
| PELASGIC FAMILY. | | } | 10 | 94 | 75 | 84 | | |
| | <i>Persians,</i> | | | | | | | |
| | <i>Armenians,</i> | | | | | | | |
| | <i>Circassians,</i> | | | | | | | |
| CELTIC FAMILY. | | } | 6 | 97 | 78 | 87 | | |
| | <i>Native Irish,</i> | | | | | | | |
| INDOSTANIC FAMILY. | | } | 32 | 91 | 67 | 80 | | |
| | <i>Bengalees, &c.,</i> | | | | | | | |
| SEMITIC FAMILY. | | } | 3 | 98 | 84 | 89 | | |
| | <i>Arabs,</i> | | | | | | | |
| NILOTIC FAMILY. | | } | 17 | 96 | 66 | 80 | | |
| | <i>Fellahs,</i> | | | | | | | |
| ANCIENT CAUCASIAN GROUP. | | | | | | | | |
| From the Catacombs. | { | PELASGIC FAMILY. | | } | 18 | 97 | 74 | 88 |
| | | <i>Græco-Egyptians,</i> | | | | | | |
| | { | NILOTIC FAMILY. | | } | 55 | 96 | 68 | 80 |
| | | <i>Egyptians,</i> | | | | | | |
| MONGOLIAN GROUP. | | | | | | | | |
| CHINESE FAMILY. | | 6 | 91 | 70 | 82 | | | |
| MALAY GROUP. | | | | | | | | |
| MALAYAN FAMILY. | | 20 | 97 | 68 | 86 | } 85 | | |
| POLYNESIAN FAMILY. | | 3 | 84 | 82 | 83 | | | |
| AMERICAN GROUP. | | | | | | | | |
| TOLTECAN FAMILY. | | } | 155 | 101 | 58 | 75 | | |
| | <i>Peruvians,</i> | | | | | | | |
| | <i>Mexicans,</i> | 22 | 92 | 67 | 79 | } 79 | | |
| BARBAROUS TRIBES. | | } | 161 | 104 | 70 | | 84 | |
| | <i>Iroquois,</i> | | | | | | | |
| | <i>Lenapé,</i> | | | | | | | |
| | <i>Cherokee,</i> | | | | | | | |
| | <i>Shoshoné, &c.,</i> | | | | | | | |
| NEGRO GROUP. | | | | | | | | |
| NATIVE AFRICAN FAMILY. | | 62 | 99 | 65 | 83 | } 83 | | |
| AMERICAN-BORN NEGROES. | | 12 | 89 | 73 | 82 | | | |
| HOTTENTOT FAMILY. | | 3 | 83 | 68 | 75 | | | |
| ALFORIAN FAMILY. | | } | 8 | 83 | 63 | | 75 | |
| | <i>Australians,</i> | | | | | | | |

* The letters I. C. designate the internal capacity.

In this table the measurements of children, idiots and mixed races are omitted, excepting only in the instance of the Fellahs of Egypt, who, however, are a blended stock of two Caucasian nations,—the true Egyptian and the intrusive Arab, in which the characteristics of the former greatly predominate.

No mean has been taken of the Caucasian race* collectively, because of the very great preponderance of Hindu, Egyptian and Fellah skulls over those of the Germanic, Pelasgic and Celtic families. Nor could any just *collective* comparison be instituted between the Caucasian and Negro groups in such a table, unless the small-brained people of the latter division (Hottentots, Bushmen and Australians) were proportionate in number to the Hindoos, Egyptians and Fellahs of the other group. Such a computation, were it practicable, would probably reduce the Caucasian average to about 87 cubic inches, and the Negro to 78 at most, perhaps even to 75, and thus confirmatively establish the difference of at least nine cubic inches between the mean of the two races.

The wide-spread reputation of the author, and his habits of close observation, entitle him to the fullest confidence on this subject, and we are pleased to learn that he is engaged in a memoir which will embrace detailed conclusions from the data collected by his untiring zeal, and which we predict will still further extend his fame as an Ethnologist.

* It is necessary to explain what is here meant by the word *race*. Further researches into Ethnographic affinities will probably demonstrate that what are now termed the *five races* of men, would be more appropriately called *groups*; that each of these groups is again divisible into a greater or smaller number of primary races, each of which has expanded from an aboriginal nucleus or centre. Thus I conceive that there were several centres for the American group of races, of which the highest in the scale are the Toltecan nations, the lowest the Fuegians. Nor does this view conflict with the general principle, that all these nations and tribes have had, as I have elsewhere expressed it, a common origin; inasmuch as by this term is only meant an indigenous relation to the country they inhabit, and that collective identity of physical traits, mental and moral endowments, language, &c., which characterize all the American races. The same remarks are applicable to all the other human races; but in the present infant state of Ethnographic science, the designation of these primitive centres is a task of equal delicacy and difficulty. I may here observe, that whenever I have ventured an opinion on this question, it has been in favor of the doctrine of *primeval diversities* among men,—an original adaptation of the several races to those varied circumstances of climate and locality, which, while congenial to the one are destructive to the other; and subsequent investigations have confirmed me in these views. See *Crania Americana*, p. 3; *Crania Ægyptiaca*, p. 37; *Distinctive Characteristics of the Aboriginal Race of America*, p. 36; *Silliman's American Journal of Science and the Arts*, 1847; and my Letter to J. R. Bartlett, Esq. in Vol. 2 of the Transactions of the Ethnological Society of New York."

THE MEDICAL EXAMINER.

PHILADELPHIA, FEBRUARY, 1850.

NATIONAL CONVENTION FOR THE REVISION OF THE PHARMACOPŒIA.

The call for this Convention, to meet in the City of Washington on the first Monday in May, 1850, has been made by the proper authority, and we would call attention to the importance of an early appointment of Delegates by the bodies who have a right to representation. These bodies are "the several incorporated State Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy, throughout the United States." The names of the Delegates appointed are to be sent officially to Dr. G. B. Wood, Philadelphia, Vice President of the last Convention. We hope that speedy action in the matter will be taken by the Societies, &c., interested.

At a meeting of the College of Physicians of Philadelphia, held January 15th, 1850, the following Fellows were elected Delegates to the Convention for Revising the United States Pharmacopœia:

Joseph Carson, Henry Bond, Francis West.

And the following were elected Delegates to the American Medical Association:

Caspar Morris, R. La Roche, Charles D. Meigs, Wm. H. Klapp, W. S. W. Ruschenberger, John Rodman Paul, Charles Evans, B. H. Coates, Wm. Byrd Page, Francis Gurney Smith, Lewis Rodman, Samuel L. Hollingsworth.

At a Quarterly Meeting of the Philadelphia County Medical Society, the following were elected Delegates to the State Society:

Washington L. Atlee, Henry Bond, John Bell, Gouverneur Emerson, George Fox, Henry Gibbons, Hugh L. Hodge, Isaac Hays, Edward Hallowell, Professor S. Jackson, Samuel Jackson, Joseph Klapp, J. Forsyth Meigs, George W. Norris, John Neill, Isaac Parrish, Wm. Byrd Page, H. S. Patterson, Wm. Pepper, M. M. Reeve, Alfred Stillé,

George B. Wood, F. West, Benjamin S. Janney, Wilson Jewell, John D. Logan, Wm. Mayburry, Isaac Remington, Joseph Warrington, D. Francis Condie, T. H. Yardley, A. Helfenstein, T. F. Betton, John M. Pugh.

And the following were elected Delegates to the American Medical Association :

Washington L. Atlee, Henry Bond, John Bell, D. Francis Condie, Joseph Carson, Gouverneur Emerson, Wm. R. Grant, Prof. S. Jackson, S. Jackson, Joseph Klapp, J. H. B. McClellan, G. W. Norris, Isaac Parrish, Wm. Pepper, Alfred Stillé, Francis West, I. Curran.

Died, at Northampton, in January last, Dr. SAMUEL B. WOODWARD, for a long time the Superintendent of the Asylum for the Insane at Worcester, Mass., aged 63. The immediate cause of the death of Dr. Woodward was the rupture of a small aneurismal sac upon the aorta at the point at which it passes through the diaphragm.

Dr. JOHN F. BROOKE, Fleet Surgeon of the U. S. Squadron in the East Indies, died at Macao, on the 17th of October, 1849. Dr. Brooke had been twenty-five years in the service.

We announce, with deep regret, the death of Dr. L. M. Kane, of Virginia, acting resident in the Pennsylvania Hospital. Although Dr. K. had been but a short time among us, he had won many friends by his quiet and amiable manners, and his warm devotion to the study of his profession. He was a graduate of the University of Virginia, and came to Philadelphia to study his profession practically, bearing with him the most flattering recommendations from those with whom he had been officially connected. He died of peritonitis on the 27th ult., after a short illness.

INSANE ASYLUMS.

Efforts are making in Michigan for the erection of an Asylum for the Insane, at Kalamazoo. The Detroit Tribune, in speaking of this movement, justly remarks that, "in respect to Insane Asylums, Philadelphia was the pioneer."

The Pennsylvania Hospital, having an insane department, was founded in 1752, and is the oldest in the country. For eighty-nine years patients were received at the Institution in the city, during

which time 4367 were admitted. In the year 1841, the new building in Blockley township having been completed, the insane patients were removed thither, from which time, until the commencement of 1849, there were received (including those transferred to it from the city) 1391 patients. The whole number received in the period, from the foundation of the Hospital till January, 1849, is 5647. The total number in the "Pennsylvania Hospital for the Insane," during the year 1848, was 403. The highest number was 208, the lowest 188; and the average number under treatment during the entire period was 199. This Institution is now capable of accommodating 220 patients with their attendants, and of a classification of them into eight distinct divisions of each sex, with the fixtures and conveniences required for their proper custody and treatment.

There is another Institution at Frankford, near Philadelphia, under the management of the Society of Friends, capable of accommodating about 80 patients. The Philadelphia Almshouse has also recently undergone extensive modifications and improvements, under the supervision of the principal physician, Dr. Benedict, (recently appointed successor to Dr. Brigham,) which have placed it upon a footing with the best institutions in the country.

These Institutions, together with the State Asylum at Harrisburg, now building, will in the course of a very short time enable Pennsylvania to accommodate upwards of 1000 insane patients, a fact which cannot be otherwise than gratifying to every benevolent mind, when it is remembered that for those who are visited with insanity, be they rich or poor, a hospital is the only resource.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

The second annual meeting of this Society will be held in Philadelphia on the third Wednesday in April, (17th.)

RECORD OF MEDICAL SCIENCE.

ANATOMY AND PHYSIOLOGY.

Lectures on the processes of Repair and Reproduction after Injuries.
Delivered at the Royal College of Surgeons of England. By JAMES
PAGET, F. R. C. S., Professor of Anatomy and Surgery to the College.

LECTURE II.

MR. PRESIDENT AND GENTLEMEN,—In the last lecture I endeavoured to establish the principle, that the power exercised in the repair of injuries was the same as that put forth in the developement of the germ from the lowest to the most perfect state in the full formed animal ; and that this power was not determined by the fact of a higher or lower position in the scale of animal life, but that it bears an inverse proportion to the power expended in the developement of the germ. I omitted all reference, then, to the amount of reparative power in the highest vertebrata. In the warm-blooded animals the only parts capable of being reproduced may be divided into three classes.

1. Those in which each part is replaced by a repetition of the act which formed the first ; among these are, the blood and cuticle. 2. Those of the lower organization or chemical composition—the gelatinous tissues and the osseous system. 3. Those accessories to the organic structures—the blood-vessels, nerves, lymphatics. These include all that can be reproduced. I shall now devote the time allotted to this lecture to the consideration of the materials necessary to the processes of repair ; and I hope I shall not err in limiting myself to certain typical instances. I propose to limit myself to wounds and fractures, and now to speak especially of the materials necessary for the repair of injuries, taking for illustration such wounds as are made in operations. Recent improvements in surgery have shown how right Hunter was in laying down the necessity of discriminating injuries—especially those which are exposed to contact with the air. He says :—“ The injuries done to sound parts I shall divide into two sorts according to the effects of the accident. The first kind consists of those in which the injured parts do not communicate externally, as concussions of the whole body, or of particular parts, strains, bruises, and simple fractures, which form a large division. The second consists of those which have an external communication, comprehending wounds of all kinds, and compound fractures.” And again, “ The injuries of the first division, in which the parts do not communicate externally, seldom inflame ; while those of the second commonly both inflame and suppurate.” Here he has expounded the whole art of subcutaneous surgery. I might remind you of the difference of the processes of repair in simple and compound fracture ; although the simple may be attended with less violence, yet from exposure to the air, if continued, they seemed to be far the worst ; even after extreme violence the symptoms of suppuration are far less

than in compound fractures. I found a number of examples of this truth in some experiments I made to see how the tendons were healed. In a certain number I made openings in the skin, and certainly the wound externally was more severe than in subcutaneous wounds. In a rabbit the tibialis anticus and the extensor longus digitorum were divided on the right side, with a wide section through the skin, and on the left with a subcutaneous section, through a small opening. Twelve days after it was killed; the subcutaneous wound had healed, and on the right side there was a large collection of pus on the wound, covered in by scabbing, and no trace of repair. The case is yet stronger, because in making a subcutaneous wound, the violence is greater than in making an open one. Still subcutaneous wounds seldom inflame; while open ones are much subject to this process and to suppuration. The reason for this difference is, that the materials for the repair of the two kinds of wounds are different. But before I speak of this I will just mention the different modes in which open injuries are healed:—1st. By immediate union. 2d. By primary adhesion. 3. By granulations. 4. By secondary adhesions. 5. By scabbing.

The process of immediate union corresponds with that of Hunter's "union by the first intention," and is accomplished by the effusion of coagulable lymph between the two old surfaces of the wound. Hunter's account of it was, that a bond of union was formed by the blood extravasated between the surfaces of the wounded parts: the blood organizes itself, and becoming vascular, forms a connecting tissue between them. Without doubt Hunter was in error in supposing that extravasated blood is used commonly for this purpose; but I will speak first of what share it really has. First, I may remind you of the evidences adduced in a former course for coming to the conclusion that blood may be organized. We may assume, that granules form a tissue and become vascular. I have already mentioned several cases in which organization in the tissue occurred—cases of clot forming in veins and becoming organized—cases of clots of blood in the heart organizing into tumors,—and clots above ligatures in tied arteries. Dr. Zwicky has clearly traced this process till it became part of the fibrous cord. A case of this kind occurred in the dura mater of an insane person examined by Mr. Holmes Coote,—beneath it there was a distinct layer of clotted blood like that which is effused in apoplexy of the cerebral membranes as described by Mr. Prescott Hewitt. A number of small vessels passed from the dura mater into this clot; and it was from these vessels, while filled with blood, that I made this sketch (diagram exhibited.) Here it bears a close resemblance to a sketch I have made of the vessels of an old adhesion; and the structure of the clot is interesting as being similar to the material used for adhesion. When acetic acid was added to it there appeared in it elongated corpuscles, and fibre with dark edges, bearing no distinct granules. No such structures are found in the ordinary products of inflammation; but, from comparison, they bear an exact resemblance to the nuclei formed to develop ordinary cellular tissue. The examination of this specimen shows one stage of the clotted blood becoming vascular in the formation of the cellular tissue, and is of the

same kind as that for the healing of subcutaneous injuries. With all this evidence that the blood becomes organized, it was with surprise that I found that blood effused and extravasated, can hardly ever become a bond of union in injuries. In a large majority of cases no blood is extravasated. Thus, in subcutaneous wounds of the tendons, it is very rare to find the blood extravasated. I find out of twenty cases in which I have divided the tendon Achillis in rabbits, only one in which a clot existed in the track of the wound. In subcutaneous division of the tendon the same thing holds, except where an artery is involved; and amongst fractures there is seldom so much blood effused as could form a bond of union. Here is the tibia of a man, whose legs were crushed by a railway carriage, in which there is no such quantity of blood as could form this bond. These cases, then, prove the fact that extravasated blood is not necessary as a bond of union. Still, when blood is extravasated, the question arises, what becomes of it. If the blood be enough to form a large clot, and the wound be exposed to the atmosphere, it is obvious that the blood will be cast out of the wound. But under favorable circumstances, the more ordinary mode is by absorption. But my observations have led me to dissent from the opinion generally entertained of the absorption of blood thus effused. The common idea is that the blood is absorbed and lymph takes its place. But this can hardly be, since the absorption of blood is a very slow process. In cases of fractures I have found the blood not absorbed in five weeks; and in a common leech-wound I have found the blood corpuscles all as perfect a month afterwards. The truth rather seems to be, that the blood is enclosed within the effused reparative material, and is by it finally absorbed. In one case the tendo Achillis was divided six days before the death of the animal. As repair was proceeding, on slipping through the length of the substance forming the bond of union, I found a perfect clot of blood, which had been effused from a large vessel, and the new material was formed completely round it, and absorbed it. This only confirms me in the opinion that the inclosure was formed of extravasated blood. In another case I found still within the reparative substance traces of blood corpuscles imbedded previous to its absorption. Still I should not be willing to believe that it would never be organized. Hunter states that he has seen extravasated blood forming a bond of union; and one does sometimes find blood so adhering to the bones that one can hardly believe it is about to be absorbed. The conclusion, then, as to the share blood takes in the repair of injuries, is this:—

1. That it is not essential or favorable to the healing of any wound.
2. That most commonly, if existing in large quantities, and exposed, it is ejected.

In favorable circumstances it may be absorbed, subsequent to the adhesion of the new material.

4. It may become organized and form part of the reparative material.

The material most commonly employed is that of coagulable lymph.

Our notions concerning the properties of this substance, when once effused for the repair of injuries, are almost entirely from examinations

of the lymph effused in acute inflammations. The identity is far from being proved, but their similarity is in many particulars evident, and especially in that both manifest, by their spontaneous coagulation, that they contain fibrine. The coagulum, which is spontaneously formed in reparative material, is identical with that of fibrine : chemically, too, they appear the same. The natural tendency of coagulable lymph is to develop itself into common fibro-cellular tissue ; but in certain cases the developement of lymph passes beyond this form. Thus, for the repair of bone, the lymph may proceed a certain distance towards the developement of a fibrous tissue, or the lymph may proceed at once to the formation of a nearly perfect cartilage, and this may ossify. Where it is produced, it has characters adapted to the functions of the parts that it unites. The bond for the union of a tendon is much tougher than that for a common scar in the skin ; that in skin is tougher and less pliant than that in mucous membrane, and so on. It has been thought a nice question, whether these variations are determined by the properties of the lymph itself, or by an assimilating force in the parts in which it is deposited. I have little doubt it is such a germ-power as that which forms the embryo out of very different materials. We have yet no observations to show a difference in the characters of the materials effused for the repair of injuries of different parts, or in different circumstances ; and yet such a difference, in even the original characters of the lymph, is indicated by the fact, that it passes through two different ways of developement. The lymph, or new material, which is produced for the repair of open wounds, generally develops itself into fibro-cellular tissue through nucleated cells : that formed for the healing of subcutaneous wounds as generally develops itself into the same tissue through the medium of nucleated blastema.

It must not appear an objection, that there should be two modes of developement to the same perfect tissue ; for this is usual, and has been observed in nearly all the tissues. I spoke of it last year in relation to the developement of the blood corpuscles, of which a first set are formed from part of the embryo cells that form the germinal area or the whole body of the embryo, and the second set are formed exclusively from the corpuscles of lymph and chyle ; and so it is with the cartilage, the muscular and other tissues that are formed in the earliest periods of embryo-life. At first they are developed from some of the embryo cells ; yet in later life, no such cells are seen among them, but others appropriate to them, and of widely different form. So also in the bones, which at first are developed through cartilage, but in their subsequent growth are increased by ossification of fibrous tissue ; and in the repair of which we shall find even more numerous modifications of these different developements.

(Here several diagrams were exhibited, of embryo cells, exudation cells, and granulation cells.)

The cells first formed are round, very slightly granular, display a well-marked cell-wall, and a clearly-defined round nucleus. Whether in granulations, or in inflammatory exudations, such cells present a striking resemblance to the white corpuscle, or lymph corpuscles, in the

blood. In the developement of cellular tissue from these cells, the first apparent change is in the nucleus. It becomes oval, even before the cell does, and at the same time becomes clearer and brighter. One or two nucleoli now appear distinctly in it, and soon it attenuates itself; but this it does later, or in a less degree, than the cell; for a common appearance is that of elongated cells bulged out at their middle by the nucleus. With these changes each cell also is developing its structure; first becoming more granular, then having its cell wall thinned, or even losing it. It elongates at one or both ends, and thus are produced a variety of lanceolate cells, which gradually elongate towards the filamentous form. As they thus change, they also group themselves, so that the swollen part of each, at which the nucleus lies, is engaged between the thinner parts of the two or more adjacent to it. The final disposal of these nuclei is hard to discern. In many instances, they are developed into filaments, like those of elastic tissue. But in the developement of the cellular tissue formed in inflammation or granulating wounds, the nuclei rather seem to waste, and be absorbed. Certainly such nucleus-fibres are not found in scars lately formed, though common in those of old standing. But, in their time, they display more organic activity than the cells,—for they take the initiative in the multiplication of the cells. In granulations, one may often find large compound cells, containing eight, ten, or more, nuclei. These have been derived by subdivision from the nucleus of the simple cell, and are probably destined to be the nuclei of as many separate cells. Such is the process for the developement of fibro-cellular tissue through nucleated cells, and though some modifications of it take place, yet none of them affect the essential characters of the process.

The developement of fibro-cellular or fibrous tissue through nucleated blastema is observed in the natural developement of tendons and ligaments. It is the same which Henlé regards as the only mode of developement of the fibro-cellular and fibrous tissues. Schwann, on the other hand, believes that there is no other mode than that which I have just described. Certain it is, that both these modes of developement of fibro-cellular or fibrous tissue may be traced; nor can any better example be selected than in the formation of scars from granulations, and of the bonds that unite subcutaneous divided tendons. Of the union of divided tendons I shall speak in a future lecture. For the present purpose, and in relation to the developement of fibro-cellular or fibrous tissue from nucleated blastema, it may be enough to state, that when the first effusion of the products of the inflammation, excited by the violence of the wound, is completed, then a quantity of finely molecular or dimly-shaded substance, like homogeneous or dotted fibrine, begins to appear in the space in which the bond of union is to be formed. This substance is infiltrated in the tissue that collapses into the space between the retracted ends of the tendon. At first there is no appearance of nuclei or cyto-blasts in it; it seems to be merely a blastema of fibrine; but as it acquires firmness and distinctness, the nuclei appear in it; they seem to form out of collecting clusters of granules, and presently appear as oval bodies, with dark hard outlines, soon becoming elongated, with clear

contents, without nuclei, irregularly scattered, but so firmly imbedded in the blastema, that, in general, they cannot be dislodged. Commonly, the application of acetic acid is necessary to make them distinct, by making the intermediate substance transparent, while the nuclei themselves acquire dark edges and shrivel up a little. The nuclei undergo little change, while the blastema in which they are imbedded, is acquiring, more and more distinctly, the filamentous appearance, and then the filamentous structure,—only they appear to elongate, and to attenuate themselves, and to grow more irregular in their outlines as if by shrivelling.

The blastema may become at length perfect fibro-cellular or fibrous tissue. The final disposal of the nuclei is doubtless sometimes that they are developed into the nucleus-fibres, and constitute some of the various forms in which elastic yellow tissue is found mingled with the proper white filaments. But, in the process of repair by tissue thus developed, as well as by that which is formed through cells, I believe that the nuclei finally shrivel.

The deduction from these facts appear to be, that the material of repair for subcutaneous wounds is developed into cellular tissue through the formation of nucleated blastema; while that for repair by primary adhesions, and by granulation, is developed into the same through nucleated cells. These instances, then, may enable us to conclude respecting the existence or non-existence of inflammation in the healing of injuries. The material of repair in union by primary adhesion and granulations is the same, in appearance and mode of developement, as we find produced in other conditions which are called inflammatory. But, in the healing of subcutaneous wounds, we find a different material of repair, which resembles, in both appearance and mode of developement that which we find forming growths whose production is not attended with any signs of inflammation. On these grounds, therefore, we are justified in holding, generally, that inflammation ensues in the healing by adhesion and by granulations, but does not exist in the healing of subcutaneous wounds. Although inflammation may be deemed necessary for the production of the lymph that may form adhesions or granulations, yet we have no evidence that the continuance of inflammation is necessary for the organization of the lymph. Rather, the persistence of inflammation seems to hinder the organisation of the lymph, to keep it in a low state of developement, or to favor its degeneration—*Medical Times.*

PATHOLOGY AND PRACTICE OF MEDICINE.

On Nervous or Convulsive Cough. By M. SANDRAS.—There are several varieties of this:—1. The patient can receive no physical or moral impression, without suffering from a cough almost convulsive in its character. In examining the chest of such a person, the physician may be led into grievous error, and the unnecessary fear of incipient phthisis, unless he examines it on various occasions and under different circumstances. Patients with incipient phthisis also cough from the slightest cause; but it will be generally found that in those cases the impression is physical, while in those we are alluding to it is oftener moral.

2. Another form of cough, having some analogy to this, is observed whenever certain functions are brought into play, or when they are more actively exerted than usual. Thus, it is found in some whose meals have been too long delayed, in others as soon as they have eaten, especially if rather fully. Other persons cannot take a little extra muscular exertion without bringing on a tormenting cough of this kind. In both this and the preceding form the cough is dry and capricious, exhibiting very inconstant physical signs; but this latter form is somewhat more fixed in character than the first, inasmuch as in the same person it is always when the same function is fulfilled that it is produced; and it seems, too, to be more dependent upon disorder of the organs in connexion with the exercise of whose functions it appears; and this should be our chief guide for its treatment.

3. Another cough is observed upon the slightest irritation of the bronchi being produced; so that the least cold brings on a convulsive cough nearly as bad as that of pertussis. Sometimes, and especially in children and in very young adults, it takes on this form from the very commencement of the cold, and retains it until coction is produced. Each paroxysm is accompanied by a dry, raucous sound, and attempts at vomiting. Sometimes it is periodical, the disease only gradually assuming the characters of an ordinary ripening catarrh. In other cases the spasmodic character is only observed as the cough is drawing towards an end. Instead, however, of coction taking place, the expectoration continues frothy and transparent, and is only ejected by convulsive efforts and vomiting—the paroxysm being brought on by the slightest cause, and a state of spasmodic suffocation being almost induced, until a little transparent and frothy matter is expectorated, when all becomes quiet and normal until a new paroxysm. In some cases the cough suddenly ceases, without the expectoration having undergone any change; but this is rare. The causes of this pertussoid cough are not of easy appreciation. At the commencement, all is like a common cold; and it is the reiterated catching cold in an eminently neuropathic subject that seems to induce the aggravation. The prognosis, as regards immediate danger, is favorable; but is more serious in respect to future consequences, owing to the various evil consequences which may ensue upon the congestions the paroxysms give rise to. The destruction of sleep and disturbance of digestion which it causes

are other important circumstances. Among the more serious results, is the production of hernias and of emphysema pulmonum. The irritation of the glottis and larynx should be relieved by tepid aqueous or narcotic vapours, and by the use of demulcent emulsions with laurel-water. When the expectoration is difficult, syrup of poppies, with small doses of tartar emetic, should be given, the antimony, whether it causes vomiting or not, affording great relief. So, too, small doses of extract of belladonna every night, or night and morning, should be given when the expectoration is somewhat modified, and in a few days the convulsive character of the cough usually abates. When this drug disagrees with the patient, it should be used endermically.

4. This variety may be called *hysterical*, from its occurring in hysterical patients. In a subject whose respiratory organs are habitually in a good condition, all at once an irregularly paroxysmal cough comes on, occurring at frequent intervals, and sometimes almost without intermission. It does not terminate with the expulsion of mucosities, but is either dry and objectless, or is accompanied by a true phlegmorrhagia. Hysterical phenomena sometimes precede or accompany the cough; while at others it ceases instantly that these appear. The cough is found to get worse and worse, in proportion to the development of the hysteria; and this without any physical explanation of its intensity. The pulse is not febrile, but may be irregular, and such a one as is found in nervous subjects. The prognosis is favorable, unless the cough is mistaken for a phlegmasia, and aggravated by maltreatment. The treatment is, in fact, that which is proper for hysteria; but two means are especially indicated—the use of belladonna, and the employment of baths. Belladonna, given in doses of one seventh of a grain every half-hour, is highly efficacious; and it is rare for five or six doses to be given before improvement is visible. Baths at from 84° to 89° act as if by enchantment; but sometimes it is useful to give them at 75° to 82° ; and this is the temperature which will in most cases prove the best, after the patient has already employed the higher.—*British and Foreign Med. Rev. from Bulletin de Thérapeutique.*

M. EDOUARD VANDEZANDE on *Colchicum in Dropsy*.—The preparations of *Colchicum Autumnale* are usually employed solely on account of their efficacy in rheumatism and gout. Störck, however, who introduced this plant into the materia medica in 1763, recognised it as a powerful hydragogue, and employed it as a succedaneum to squills. In spite of his recommendations, and of the favourable reports given by Plenck, Quarin, Zacht, Cullen, and others, the employment of *Colchicum* in dropsy has not extended, and at last has been almost entirely neglected. In later times, the attention of some physicians has been fixed afresh on the power which Störck recognised in colchicum. Among others, Dr. Kennedy, in a memoir presented to the Surgical Society of Ireland, relates that he has, in a large number of dropsical cases, obtained astonishing results from the employment of the vinous tincture of this plant. Having also made use of this preparation in some cases of serous infiltration and accumulation, I have thought it not unprofitable

to give a summary account of the results which I have obtained; first, because they are of a nature to lead my professional brethren to have recourse to the hydragogue power of the plant in analogous cases; and also, because the effects of *Colchicum* have not always been so complete or so manifest as in the cases which I have observed, of which I shall record the principal.

CASE I. Jean Bulckaert, a workman, aged 42, of weak constitution, was seized, three years ago, with intermittent fever in Flanders, where, as is well known, this disease is endemic. Having been under treatment for several months in the hospital at Dixmude, he recovered; but, on his returning home, where he could only procure insufficient food, the disease was not long in recurring. Instead of then applying for medical advice, he had recourse to some domestic remedies, which produced no effect. The patient soon presented all the characters of paludal cachexia. The lower extremities, and the whole body in succession, became œdematous; the abdomen was distended, and the respiration impeded. It was when in this condition that Bulckaert first applied to me. After febrifuge tonics and diuretics had been used for six weeks, the œdema disappeared, and the state of the patient's health seemed satisfactory, although there still remained a slight enlargement of the spleen, of which he neglected to get relieved. Last April, two years after the first appearance of the fever, I was again sent for by him. The dropsy had reappeared, but this time it had not been preceded by an attack of fever: there was excessive serous infiltration of all parts of the body, and the urine was slightly albuminous. The same treatment as before was adopted, but without the least success: I then prescribed the wine of *Colchicum* in daily doses of six grammes (about ʒii), increasing the dose by a gramme daily. The medicine was well borne by the patient: it was increased to 40 grammes daily; this quantity was continued for four days, at the end of which time the patient was free from dropsy. During the latter period of the treatment, the alvine evacuations were abundant, and the quantity of urine was considerably increased.

CASE II. A woman, named Messiaen, became dropsical after an attack of confluent small-pox: the dropsy was preceded, for some days, by paroxysms of intermittent fever. Neither nitric acid nor heat showed the presence of albumen in the urine. I treated her with wine of *Colchicum*, in doses of eight grammes, without any other medicine. At the end of a fortnight, the anasarca had disappeared, and the patient felt herself completely restored.

CASE III. A poor woman, who had twice been attacked with articular rheumatism, from which had resulted an organic affection of the heart, with habitual dyspnœa, observed her lower extremities to become œdematous, without any known cause. The extreme misery in which this woman was, and her dirty habits, gave but little hope of a prompt result from any treatment whatever. I resolved, however, to give her *Colchicum*, especially as I thought that the rheumatic diathesis was connected with the production of the dropsy. The medicine was not well borne, in doses of eight grammes. I diminished the dose by one-

half; but, in a few days, I had to discontinue its use entirely, in consequence of the occurrence of vomiting, dry tongue, and intense thirst. Some time after, when the symptoms of gastric irritation had been removed, I again employed the Colchicum in smaller doses, but without any effect. Mild tonics were then prescribed; and, under their use, the œdema at length disappeared. The woman has still œdema of the feet.

CASE IV. A miller, addicted to the use of alcoholic liquors, had for some days complained of *courbature*, loss of appetite, and a remarkable diminution of urine, when he perceived symptoms of dropsy. I first saw him on the 15th of last May. The lower extremities, the scrotum, and the hands, were very œdematous; the face was much puffed up; the abdomen was hard and distended; the respiration was impeded. On testing the urine with heat and nitric acid, a large quantity of albumen was detected. The tongue was furred, the stools unfrequent, and the pulse somewhat febrile. The patient complained of no pain in any part of his body. With the object of cleansing the digestive canal, I prescribed an emeto-cathartic, consisting of a decigramme ($1\frac{1}{2}$ grain) of tartar emetic, 32 grammes of magnesia, and 250 grammes of water, of which a wineglassful was to be taken every half hour. The patient had several evacuations from the stomach and intestines, without any marked effect on the dropsy. On the 18th of May, wine of Colchicum was ordered in doses of six grammes, and was very easily supported. The next day, I increased the quantity by two grammes, and continued it for ten days. As this treatment produced no amelioration of the symptoms, the patient importuned me to try some other means. The urine being still albuminous, I had recourse to the internal administration of nitric acid, as recommended by Professor Forget. This medicine had the desired effect. In four or five days, there was a remarkable diminution in the size of the scrotum, while the œdema of the extremities decreased; the abdomen became softer, and the face less puffy; the urine was more abundant and less albuminous. In spite of the continued use of the medicine, the patient remained in the same condition for some time; and it was only after using Bestuchef's tincture* for some days, that the œdema and cachexia disappeared, to be succeeded by rapid convalescence, and soon by recovery,

These observations appear to me to be of a nature to induce my professional brethren to have more frequent recourse to the use of wine of Colchicum, in the treatment of certain dropsical affections. I am persuaded, though unable to specify the cases in which its employment is specially indicated, that this medicine may often be advantageously substituted for the hydragogues in most common use. At all events, I would not recommend it in all cases of albuminous nephritis; for there are medicines which act more directly on this disease, and which, therefore, seem to me to be preferable. [*Annales de la Soc. d'Emul. de la Flandre Occidentale*, as quoted in the *Rèv. Méd. Chirurgicale de Paris* for August 1849.]

* Bestuchef's tincture, otherwise called Klaproth's tincture, or ethereal tincture of chloride of iron, is composed of dry perchloride of iron, one part; Hoffmann's liquor, seven parts.

MATERIA MEDICA AND THERAPEUTICS.

Experimental Researches on the action of Quinine, especially in large doses. A Memoir submitted to the Academy of Science. BY M. BRECQUET. Report of MM. ANDRAL, RAYER, AND LALLEMAND.—M. Brecquet records the effects on the principal organs of the animal economy, of sulphate of quinine, in doses of fifteen grains and upwards. His experiments have been made upon living animals; to these he adds observations on patients to whom he has administered the remedy in the above-named doses.

1. *Effects on the organs of circulation.*—These were of two kinds,—first, as regards the frequency; secondly, as regarded the force of the pulsations of the heart. The frequency of the pulse was variously reduced from eight to forty beats in the minute.

Alterations in the force of the heart's action were observed by the aid of M. Poisseuille's hæmadynamometer applied to the carotid artery of animals, in whom at the same time solution of sulphate of quinine was injected into the left jugular vein. Varying with the quantity injected, the force was observed to be diminished from a seventh to a tenth, a fourth, a third, and a half; and at last, on injecting thirty grains of the bisulphate in about four ounces of water, all pressure disappeared, the heart's action ceased, and instant death by syncope ensued. These effects were observed to follow regularly, whether the quinine were administered by injection into the vessels, by the stomach, or by insertion into the cellular tissue.

2. *On the nervous centres.*—Injected directly towards the brain by the carotids or ascending aorta, great cerebral excitement and convulsions were produced. If the quinine reached the brain by the more indirect route of the general circulation, agitation, headache, vertigo, tinnitus aurium, paralysis of the nerves of the special senses, muscular twitching and subsultus tendinum, apparent intoxication, then general collapse and loss of all voluntary power. Dissection generally disclosed great congestion of the brain and its membranes, and even meningitis.

3. *On the organs of respiration.*—No appreciable effect was observed, except what might be referable to the slower propulsion of the blood by the heart.

4. *On the digestive organs.*—Inflammation of the mucous membrane, attended with its usual symptoms, though not generally of a severe character.

5. *On the urinary apparatus.*—Pain, frequent micturition, hæmaturia, dysuria, and retention, have been noticed, but always in a slight degree.

6. *On the organs of generation.*—Uterine hæmorrhage of the female, and debility of the organs in the male.

7. *On the skin and the subcutaneous cellular tissue.*—Numbness and coldness of the surface, ecchymosis and petechiæ, more or less extensive.

8. *On the blood and other animal fluids.*—When blood drawn from the vessels was placed in contact with solution of quinine, it became

liquefied, and the globules were destroyed ; but in order that such effects should take place in the living body, the presence of a much greater quantity than can be taken by the stomach would be required. Animals poisoned by this medicine did not present this liquid state of the blood, but an increase in the proportion of fibrin was found. No trace of quinine could be discovered in the milk or mucous secretions.

The absorption and elimination of quinine in reference to its therapeutical employment, was ascertained by noting the period at which a precipitate appeared in the urine, on the addition of the bi-iodide of potassium, and by observation of the symptoms referable to the nervous system. Thus it was observed that the sulphate in doses exceeding three grains is absorbed in from half an hour to two hours, and produces its physiological effects in another hour. These will continue for about half an hour. A dose of fifteen grains in six hours continues to manifest its influence for from five to six hours. Thirty grains administered in two hours, produce symptoms lasting from twelve to fifteen hours. When the sulphate has been administered for several days, the effects continue many days after it has been withdrawn. The medicine is completely eliminated at the end of ten or twelve hours after small doses, and in about forty-eight or seventy-two hours after large doses.

Women and children are more susceptible of its influence than men ; and the stature and strength of the individual modifies its effects. Loss of blood increases also its influence, diminishing its stimulating, and increasing its depressing action. Opiates act in a similar manner, while alcoholic stimulants have a reverse operation.

In reference to its therapeutic properties, M. Brecquet found that the sulphate is the most active of all preparations of quinine ; that the alkaloid itself has an action identical with the sulphate, as has also cinchonine, but that the latter is by one-third less powerful ; that quinoidine has the same action as quinine on the nervous system, but is much more irritating to the alimentary canal.

M. Brecquet found the solution of sulphate more active by one-half than the same compound in the dry state. Administered by enemata, absorption was found to take place more rapidly than when it was given by the mouth, but the effects lasted a shorter time, and the alkaloid scarcely produced its physiological action. Employed for frictions, ointments, lotions, and other endermic methods, the absorption was very feeble, and no physiological action whatever could be traced.

The physiological and therapeutical effects of this medicine were more regularly and powerfully obtained by its administration in repeated doses ; its exhibition therefore requires to be continued for a certain period.—*Lond. Med. Gaz., from Comptes Rendus.*

Remedy for Hydrophobia.—M. ROCHER D'HÉRICOURT, who has lately returned from a journey in Abyssinia, has brought with him manuscripts of great literary value, and has collected all the facts calculated to throw light on geology, mineralogy, botany, and other branches of science. He has likewise brought with him numerous specimens of a plant, the

root of which, reduced to powder, is a cure for hydrophobia, both in men and animals. Of its virtues M. d'Héricourt had practical proofs. Four dogs and a man having been bitten by a mad dog, they were, by the application of this remedy, cured of the hydrophobia which ensued; whilst the fourth dog (bitten at the same time, by the same animal), to which the remedy was not applied, perished in all the agony of that terrible disease. The virtue of the plant, and the manner of preparing it for use, were explained to the traveller by a potentate of the country, who assured him that it was there generally used, and never failed. The specimens brought over by M. d'Héricourt have been submitted to the Academy of Science of Paris, and a committee has been appointed to test their efficacy.—*Lancet*.

SURGERY.

On the use of Nitrate of Silver in Lacerated Wounds. BY JOHN HIGGINBOTTOM, Esq., F. R. C. S., Nottingham.

Lacerated Wounds of the Face.—CASE 1,—Miss R——, aged twenty. On a very windy day, a piece of slate was blown from the roof of a house, which fell upon her forehead, and inflicted a wound of five inches in length, commencing on the forehead, above the right eye, passing obliquely across the nose, and terminating on the left cheek, leaving a large open wound, quite disfiguring the face. The wounded parts, after being well cleansed from extraneous matter, were neatly closed by the interrupted suture; the nitrate of silver was then applied along the edges of the wound, on the line of the wound, and also on the surrounding skin. Afterwards, strips of adhesive plaster were applied, without any other covering.

The wound healed by the first intention, and required no further application. It is now several years since the accident. A common observer standing at a short distance, cannot see the mark of the union, for no disagreeable mark or cicatrix remains.

Great advantages are derived from healing lacerated wounds on the face by the aid of the nitrate of silver.

1. It prevents irritation arising from the irregular edges of a lacerated wound, and it induces adhesive inflammation as readily as in an incised wound.

2. The inflammation, swelling, and irritative fever, consequent on lacerated wounds, are in a great measure prevented, and there being no ulcerative process, there is no loss of substance, so that unsightly scars and raised cicatrices are obviated.

CASE 2. A boy was standing on a wall, supporting himself against some iron palisades fixed in the wall. Not having a firm footing, his feet slipped, and he threw his head forward, and his cheek came in contact with a sharp iron spike at the top of one of the palisades: it pierced through the lower part of the cheek, fractured the malar bone, and perforated the upper part of the cheek, so as to cause two lacerated

wounds, two inches in length, one above the fractured bone, and the other below.

After the parts had been washed, the wound was closed by two interrupted sutures; the nitrate of silver was applied to the edges of the wound, to destroy their irritability, and an inch upon the surrounding skin; also over the surface of the small line of wound that was left exposed; but not within the wound. Adhesive strips were applied to support the part; no bandage was put over it.

In four days the wounds had healed by the first intention, except a small opening in the lower wound. The ligatures were removed on the third day, and the slight orifices made by the removal of the ligatures were touched with the nitrate of silver, to prevent inflammation or ulceration.

It was observed that a clear fluid flowed from the small opening that remained in the lower wound, which was found to arise from a wound of the salivary duct.

After three applications of the nitrate of silver, to form an adherent eschar, this small opening was closed; and in three weeks there was no further discharge of saliva, the wound being healed,

The use of the nitrate of silver, in parotid fistula, I had previously practised, in a case of seventeen years' duration, published in the *London and Physical Journal* for January, 1830. In this case there were two orifices—one was healed by the nitrate of silver; the other, with the concentrated sulphuric acid.

Lacerated Perinæum.—Mrs. H——, on her first labour, drew herself suddenly away from any assistance at the moment of the birth of the head of the child; and in consequence the perinæum was lacerated just above the right side of the median line, entirely through the sphincter ani.

The parts were directly united by the interrupted suture in two places, and the nitrate of silver applied along the skin on each side, close to the line of the wound, and on the line of the wound, and left without any other dressing.

No swelling or inflammation followed to require any other treatment.

On the expiration of the second day, a dose of castor oil was given, which had the desired effect of opening the bowels without disturbing the parts.

On the third day, the sutures were removed, and the ligature marks touched with nitrate of silver to prevent ulceration. The wound united by the first intention; there was no swelling; and it is worthy of observation, that the eschar surrounding the laceration made by the nitrate of silver had the power of fixing the parts as if adhesive plaster had been applied.

No further treatment was required, and the patient experienced no future inconvenience. It is now thirteen years since this case occurred, and the patient has borne nine children, but there has been no other laceration.

On examining the part lately, the mark of the wound is scarcely

perceptible, except that one point is a little raised at the anterior edge of the perinæum.

If another case should occur, I should use the catheter to draw off the urine for the first three or four days, although in this case no injury was sustained by its neglect.—*London Lancet*.

Prevention of the entrance of Air when removing Fluid from the Pleuræ, Peritoneum, and Cavities of Abscesses.

At a meeting of the *Société de Chirurgie* of Paris, held on the 14th of November, a letter was read from M. RACIBORSKI, of which the *Union Médicale* for November 17th gives the following extract.

A wet, collapsed hog's bladder is fixed to the outside of the canula which is to be introduced. When the trocar has sufficiently entered the cavity, the bladder must be supported by the left hand of the operator, the right being used to withdraw the trocar, and so allow the fluid to flow through the canula into the bladder. If the bladder be insufficient to contain the whole of the fluid to be withdrawn, the flow has to be stopped by pressing the side of the bladder against the outlet of the canula, whilst an assistant punctures the bladder in a convenient part, and thus evacuates its contents. By securing the opening by a ligature, the bladder may be made to serve for the evacuation of the whole of the fluid.

OBSTETRICS.

Case of Placenta Prævia. By W. F. VIDAL, M. R. C. S., Aveley, Essex, late House Surgeon to the London Hospital.—Emma T., aged 37, wife of a waterman, a woman of a full habit, being pregnant for the ninth time, wished to be attended by me in the event of her sending, as she felt very unwell, and at the same time stated, that the previous morning, and also three times before, she had a profuse discharge of blood, the first time being about the third month of utero-gestation, which gradually ceased on lying down. I recommended quietude, the recumbent position as much as possible; there being no hæmorrhage at that time, objected to an examination per vaginam, and as she was at the full period of her time, desired, that if a similar attack returned, to send without delay.

I heard no more of the case until five days after, when I was summoned at about half-past five, A. M., to go immediately to my patient, as she was in a very low state. I promptly attended, as, from the previous losses of blood, my suspicion was a case of placental presentation. On entering the room, I found her in the semi-erect posture in the bed, with wet napkins applied to the pubis, and in a very low state; countenance pallid, pulse rapid and extremely feeble; the bed, &c., was saturated with blood. On inquiry, I learnt that she had an attack similar to the first the same day after she had spoken to me, and also symptoms of approaching labor, both of which continued in a slight degree for three days, when the discharge ceased, the pains remaining,

but less severe. On the following day, she exerted herself all day in her household duties, and felt great heaviness for sleep during the day, which increased at night; she went to bed, and, after a short time, all pains left her and she fell into a sound sleep and continued to do so until five o'clock the following morning, when she awoke with a feeling of faintness and general debility, and lying in a pool of blood, which greatly alarmed her, and immediately I was sent for. After some trouble I got her to the foot of the bed, as she dreaded to move from her position, and, on an examination per vaginam, found the thick mass of the placenta situated over the os uteri, and almost completely detached, with the exception of a small portion near the left side of the womb. The mouth of the latter dilated to an extent sufficient to allow nearly the introduction of the hand, and inclining to yield. During my examination a gush of blood took place, which immediately induced me to separate the remaining adherent portion of the after-birth, and endeavored to find the feet of the child, which I soon managed, and, in the act of turning, a sudden return of hæmorrhage occurred, which drove the placenta, together with some clots of blood, by my arm externally; I ligatured the cord by the assistance of the nurse, deeming it might be of some object to the infant, although, from all appearances, "dead," as there was no pulsation in the cord, and a quantity of meconium passed; and also what might be expected from the small quantity of nutrition received, if one may judge from the proximity of the placenta, in this instance, being so slight to the uterus.

As soon as the operation of turning had been accomplished the woman seemed so exhausted that I thought further proceedings would have been attended with great hazard, and therefore waited for a time until she rallied, at the same time keeping my hand in the mouth of the uterus as a plug, and I gave slight stimuli; after a short time she regained her strength, pulse rose, and she expressed herself better. My wish was then to empty the uterus as soon as possible, which was done with comparatively little difficulty; after which, to my surprise, "there being no hæmorrhage at the time," she became perfectly insensible, and remained in that state for some minutes, when consciousness gradually returned, but not the power of articulation; the pulse extremely low. I ordered an egg beaten up with brandy, which seemed to have the effect of restoring, in part, the vital functions. The uterus contracted steadily and firmly, and no return of the flooding, which I attribute greatly to the syncope after the delivery. I remained some time with her, and left her as comfortable as possible after so severe a trial, and gave an anodyne mixture of tincture of opium and camphor mixture to be taken every three hours, and on visiting her in the evening, was pleased to find that she was perfectly composed, pulse tranquil, slight fever, and she had slept. My patient did well, and is now in perfect health.

My success in this case I impute to prompt and active measures, which, in one so severe, is, in my opinion, the sole hope of a favorable termination. At the same time, a constitution so good as that of my patient tends much to ultimate recovery.—*Lancet*.